DOCUMENT RESUME

ED 033 468 EA 002 593

AUTHOR	Banathy, Bela H.; And Others
TITLE	Systems Development in Guidance--a Learning-Task-Centered Approach. Final Report.
INSTITUTION	Pacific Grove Unified School District, Calif.
Spons Agency	Office of Education (DHEW), Washington, D.C. Bureau of Research.
Bureau No	BR-8-I-106
Pub Date	Jun 69
Grant	OEG-9-8-081106-0116-(010)
Note	96p.
EDRS Price	EDRS Price MF-$0.50 HC-$4.90
Descriptors	Bibliographies, Counselor Role, Curriculum Design, Curriculum Development, Educational Objectives, Educational Research, Educational Strategies, Grade 1, *Guidance Personnel, *Guidance Programs, Individualized Instruction, Input Output, Instructional Programs, *Interaction Process Analysis, Kindergarten, Learning Activities, *Models, *Systems Approach

Abstract

To develop a systems-oriented model for guidance and counseling at all levels of schooling, a research project was conducted in a California school district, testing the applicability of systems concepts in guidance at the kindergarten and first grade levels. The project report includes a review of literature relating the systems approach to education, a description of the data gathered during observation of kindergarten children's learning experiences through various kinds of social interaction (verbal, kinesthetic, physical), and a series of nine diagrams illustrating the systems approach. A six-phase schematic design (input process, integration, facilitation, transformation, adjustment and control, and output) incorporates the study's findings, based upon the assumption that the instructional program is the primary focus within the educational system around which all functions revolve, including guidance and counseling. (JK)

ED033468

BR 8-I-10
PA-24
OE/BR

FINAL REPORT
Project No. 8-I-106
Grant No. OEG-9-8-081106-0116-(010)

SYSTEMS DEVELOPMENT IN GUIDANCE -- A LEARNING-TASK-CENTERED APPROACH

Bela H. Banathy
Norman H. Ginsburg
Peggy L. Halcomb
Pacific Grove Unified School District
P.O. Box 448
Pacific Grove, California 93950

William C. Carey, Superintendent

June, 1969

The research reported herein was performed pursuant to a grant with the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

EA 002 593

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

TABLE OF CONTENTS

Acknowledgments and Preface ii

Summary 1

Introduction 3

  Scope of the Report
  Significance and Objectives

Methods 21

  Presentation of the Paradigm
  Explanation of the Paradigm
  Roles as Viewed in this Study

Findings and Analysis 36

  Results

Conclusions and Recommendations 37

Supplementary and Appendix Material

  Appendix A 42
  Appendix B 49
  Appendix C 52
  Appendix D 93

List of Illustrations

  Diagram 1 24
  Diagram 2 25
  Diagram 3 27
  Diagram 4 28
  Diagram 5 30
  Diagram 6 32
  Diagram 7 33
  Diagram 8 34
  Diagram 9 35
  Diagram 10 38

Acknowledgments

William C. Carey, Superintendent, Pacific Grove Unified School District, has been the project's underlying force for success. His persevering conviction and support was directly related to the formulation and submission of this research grant. We are deeply appreciative of his concern for basic research and his approval to carry out this research activity in an on-going typical school setting.

We wish to acknowledge further the support given this project by the Board of Education of the Pacific Grove Unified School District. The indefatigable support and participation given to this project by Mrs. Peggy Halcomb, Resource Teaching Specialist at the David Avenue School cannot go unheeded. A special thanks goes to Mrs. Hazel Allemand, Principal, David Avenue School also.

Dr. Walter Hirsch, U. S. Office of Education, Bureau of Small Research Grants lent us very valuable assistance in preparing and carrying out this project. He was most helpful in assisting us in learning what was required in conducting a government-sponsored research proposal. Acknowledgments would not be complete without particular thanks to Dr. Robert Gagne, University of California and Dr. John Krumboltz, Stanford University for reviewing our research activities and for making subsequent suggestions on how to make our work more effective and significant.

Preface

Systems design as applied to the field of education is a new movement but a fast growing one. This project utilizes a systems design developed by Bela Banathy, Program Director, Far West Regional Laboratory, Berkeley, California, for the investigation of all school roles and programs, of which guidance and counseling is an integral part.

Guidance and counseling within the field of education is in very severe straits regarding its viability in a dynamic changing field. Educational planners and administrators are re-examining the roles of guidance counselors and they are asking themselves whether such a position is necessary in today's world of learning. Traditionally counselors have been unable to demonstrate adequate methods by which to evaluate the value of a counseling and guidance program in the schools. This project utilizing an educational systems design suggests one way to examine this question.

Summary

The Problem

The problem under investigation dealt with the establishment of guidance roles and programs practiced in public schools. Existing guidance roles and programs are in need of careful scrutiny and improvement; it was proposed by this study that a systems approach is one way to go about taking a fresh, new look at guidance practices in the public schools.

The Scope

The scope of this study was to develop specific behaviors regarding guidance roles within the context of an educational system. While our project dealt only with the early primary level of schooling, the procedures and practices developed through the use of systems design were intended to be applicable at any grade level.

The Objectives

The objectives of this project was to design, test and validate an educational systems model from which guidance roles and programs can evolve. Activities undertaken within the project in order to meet this objective included: (1) a review of previous research conducted by the school district prior to the beginning of the project, (2) a review of current literature, (3) a collection of baseline data, (4) a design of the educational model from which guidance roles evolved, (5) a design of an educational system from which guidance roles evolved, (6) a set of curriculum units from which guidance roles evolved, (7) a training period for the significant adults regarding implementation of curriculum units in the pilot phase of project, and (8) an evaluation of the educational systems model as it relates to evolvement of guidance roles.

The Methods

Methods used are incorporated within the procedural requirements of the systems approach. The groups of individuals manipulating and interacting within the system included significant adults in the child's life space at the early primary level, such as parents, teachers, administrators, and counselors. Further during the pilot model phase of the project a randomly selected group of first grade children were chosen to participate in field testing of the educational systems model. Methods of analysis regarding the collection of data resulted from dynamic group interactions among significant adults vis-à-vis understanding of systems model design, understanding of systems design, and the establishment of curriculum units within the context of the systems design. Video tape recordings which observed a learner's school performance in carrying out pre-planned curriculum activities were available to the group for supplemental reinforcement to actual observations.

The Results

The educational systems design was utilized in the development of two curriculum units in the domains of Selective Listening and Oral Communi-

cations. Appropriate guidance roles that have evolved as a result of this project's activities are: (1) a behavioral consultant to administrators, teachers, and parents regarding the development and interpretation of curriculum units within the context of the educational system designed, (2) the development and implementation of evaluation methods and instruments regarding desired objectives, (3) a behavioral consultant with teachers (administrators and parents tangentially) the management of the learner within the actual learning environment, and (4) a behavioral consultant with aforementioned significant adults regarding the analysis of discrepancies noted between the learner's performance and prescribed objectives and subsequent redesigning of learning experiences to meet the individual needs of the learner.

The Highlights

The following areas identified within the framework of this educational systems design suggests that the aforementioned roles create a full-time position for a guidance counselor. The counselor's role is associated with assisting school staff and para-professionals in the individualizing of instruction to facilitate the learning process of each child.

The project has also made a contribution to systems research. A systems paradigm was evolved as a plan and strategy for curriculum development. This paradigm then was used in constructing and managing learning task-centered curricula.

Inherent in a learning task-centered approach to education is a new systems model of schooling. Rather than being composed of administration-instruction - counseling, etc. subsystems - Schooling is conceived to be a combination of a new set of subsystems. These new subsystems are based on functions which are to be carried out to enhance the mastery of learning tasks; such as: input processing, transformation, integration, facilitation, control, and adjustments, etc. A teacher, an administrator, the learner, a parent who, according to the traditional model of schooling found himself to be a component of a particular subsystem, in the new constellation might belong - by design - to more than one subsystem. The proposed educational systems design is a workable product which can be implemented in the schools.

Recommendations

It is recommended that the activities undertaken by this project be expanded into a broader educational context. That is to say, there is a need to further validate the effectiveness of suggested counselor roles by establishing control and experimental groups of adults and children utilizing the educational systems model developed and piloted during this project.

It is recommended that expertise be developed in specific areas of counseling such as curriculum development, child management, parent-school coordination, personal-social counseling, educational counseling, and vocational counseling. It is recommended that the roles of other significant adults be examined within the educational systems design product as well. Consideration of roles must take on an interdisciplinary re-evaluation in order to be effective and meaningful.

Introduction

Why should one have cause or reason to be concerned with guidance in today's public schools? Why should one propose to find some type of new model for the design of school guidance programs? Obviously, what we have today appears to be unsatisfactory. An exploration of these queries and others like these will lead to statements which will be designated as an assessment of need.

An assessment of need will be approached in the following manner: first, provide a self-assessment of the Counseling and Guidance program of the Pacific Grove School District, and second, provide a review assessment of guidance programs. The examination of these specifics will provide the basis upon which to evolve generalizations regarding the existing state of guidance services in public schools and to identify the need to which we wish to respond by pursuing our research and development project.

Self Assessment

During the school year 1967-68, the Pacific Grove Unified School District, with the assistance of a NDEA, Title V-A grant, contracted the services of Dr. Robert M. White, California State College, Hayward, to conduct a survey of guidance needs in the district. While Dr. White found the guidance personnel to be well-qualified and energetic, he did note a number of shortcomings and specific needs. (Dr. White was quick to point out that Pacific Grove Unified was not alone and that many of the areas cited were common shortcomings and statewide needs).

Upon initial observation, it was clear that there was a district-wide lack of coordination and articulated structure to the organization of pupil personnel services. Generally, each pupil personnel service available in the district--phychologist, counselors, speech therapist, nurses, and attendance supervisor--worked within ill-defined organizational patterns. Lines of authority were conflicting, This was all complicated by a large turnover in central office staff in recent years. Further, it was pointed out that present job descriptions were not in line with present practices or that there were no job descriptions available for newly created positions in guidance.

This lack of organizational structure appeared to be responsible for poor communication between all persons who were entitled to guidance services--students, teachers, parents, and administrators.

Dr. White cited the present allocation of resources as inadequate. Moreover, he cited the scheduling of these resources as ineffective and inefficient.

In summary, it appeared that the guidance program as it exists in the district lacked goals and objectives vis-à-vis its role and function. There did not appear to be any stated connection between guidance services, or for that matter, pupil personnel services in general, and the stated goals and objectives of the school district. There did not appear to be any district policy stated in regard to allocation of guidance services and the scheduling of such.

Sample Assessments

As a sample of numerous assessments of school guidance practice, the following reports represent (1) an assessment of educational needs in our geographic region, and (2) an assessment of guidance services in a large school district in Southern California.

The Report of the George Washington University (EDINN) Research Team

During the school year 1966-67, Project Edinn, a Supplementary Educational Center serving the Central Coast Counties of California (Public Law 89-10), contracted with the Office for Sponsored Research of George Washington University. The purpose of the contract was to assess the educational and cultural needs of youngsters residing in the Counties of San Benito, Santa Cruz, and Monterey, California. Although this research team did not focus its attention directly upon the guidance practices found in these three counties, the needs for guidance in relation to the assessed educational and cultural needs were strongly implied.

Reviewing the report's Table of Contents, one finds educational areas inextricably related to commonly accepted functions of guidance; for example, Educating Students of Various Ability Levels, Social Factors and the Schools, Educational Objectives, and Curriculum Balance and Vocational Training. One thing was clear in each of these areas--there was an overriding need for supplementary and innovative programs along with an allocation of resources. Strongly implied was the notion for more guidance programs designed to meet the needs of all youngsters; however, not just guidance programs, but new, dynamic ones with effective and efficient allocation of guidance resources.

Findings of Analysis of a Large Southern California School District: SDC Report

This analysis uncovered several problem areas, among them outstandingly:

There is a lack of congruence between the objectives of the total system and the objectives of Counseling and Guidance as defined by the guidance people of the system.

> The leadership of the guidance program wanted the guidance people to attain such objectives as helping students to solve problems of educational and vocational planning, problems of underachievement and problems of personal and social nature. Against this expectation, it was found that most of the Guidance staff's time was spent in programming and registering students.

(SP-720, John F. Cogswell: The Systems Approach as a Heuristic Method in Educational Development, 1966.)

The organizational structure of the school was vague and loosely integrated. "The interaction between the various subsystems was weak, and the flow of information between them was minimal." (Ibid.)

The key reasons for the inadequacies described by the systems analysis team appeared to be a lack of common focus shared by the different "subsystems" of the school, and there appeared to be no common purpose around which to build the system or around which to integrate its "subsystems".

Based on the sample assessments described above and on a review of relevant research and literature reported in Appendix "A", we present next a generalization about the contemporary state of guidance.

Generalizations About the State of Guidance

A review of contemporary statements about guidance indicates that there is a variation in theoretical orientations. One just has to read statements regarding guidance by Professors Rogers, Williamson, Krumboltz, and Arbuckle, to name a few, to see this variation.

While each of these guidance theoreticians would probably agree that the outcome of guidance is a more broadly based structure of self, an inclusion of greater proportion of experience as a part of self, and a more comfortable and realistic adjustment to life, each embarks upon his own methodology to meet that end. However, missing from the Theoreticians is a direct statement regarding guidance and the general goals and objectives of education. That is, school personnel in and out of guidance must decide upon the role and function of guidance in the schools by implication rather than by direction.

> The literature in the field of guidance is very sparse in presenting to school guidance practitioners methodologies and specific techniques that will lead to specific outcomes with a known degree of probability.

(Krumboltz, John D., "Behavioral Counseling: Rationale and Research,")

Personnel and Guidance Journal 44 (December, 1965).

In a recent article reviewing the state of guidance, Cooley and Hummel stated that:

> No attempt has been made to systematize all the guidance functions in an educational program using systems approaches.

Cooley, William W. and Hummel, Raymond C., "Systems Approaches in Guidance," Review of Educational Research 39 (April, 1969).

In light of these statements and the differing frames of reference guidance workers "set sail" from, is it a wonder why guidance as practiced in the schools is usually looked upon as non-essential but nice to have!

Guidance, as a rule, is not related directly to the purposes of education; it is not designed as an integrated and integral part of the process and program of education; and it is not articulated from Kindergarten to Grade 12.

STATEMENT OF PURPOSE

The purpose of our research was to respond to the need previously described and to evolve a model for the design of guidance programs, the application of which will satisfy the expectations expressed in the statement of need.

THE RESEARCH RATIONALE

The research rationale consisted of two assumptions.

Task-Centered Guidance: Assumption #1

The purpose of schooling is to bring about certain changes in pupils. These changes are called learning. Thus the purpose of schooling is to facilitate learning. Everything which is being done in schools should focus on this facilitation.

The three essential elements within the context of schooling are: (1) the learner, (2) the learning task(s), and (3) whatever is being done (by whomever and wherever) in the learning environment to optimize the mastering of learning tasks. Accordingly and consequently, at any given time, a set of learning tasks becomes the nucleus around which to design schooling. Once the task of learning is defined, we need to discover and identify the functions which have to be carried out in order to facilitate the mastering of the learning task(s).

It is at this point where guidance may enter into schooling as a facilitating process and program. Guidance may have a role in education to the degree it offers specific potential for the carrying out of certain functions which enhance the learner to hurdle his learning tasks. To the extent this enhancement is offered by guidance, it becomes a valid subsystem of the total system of education. As a subsystem, it should be designed for the purpose common to all other subsystems, in order to fulfill its role in the attainment of the overall purpose of schooling.

We introduced this assumption as one of the organizing concepts of our research effort. We expected that from an implementation of that concept:

- guidance will emerge as an essential subsystem of education, one which, in interacting with other subsystems, will serve directly to facilitate learning;
- the role of guidance in the total educational process will be clearly delineated; and
- guidance will become an integrated and integral subsystem of schooling.

An analysis of relevant research and literature on guidance indicated that the guidance view explained above as Assumption #1 is a radically new concept. Based on this concept, we proposed that, if there is a place for guidance in education, it will be basic and essential rather than supplementary and optional. It was expected that, from an implementation of the guidance view explained here, guidance programs will be developed around learning tasks. Furthermore, guidance will constitute one of the subsystems of education which, interacting with other subsystems, will help the child to attain specific learning outcomes.

The Application of the Systems Approach: Assumption #2

The second assumption was a proposal which committed us to use a special methodology of research and design. We suggested that the guidance view introduced in Assumption #1 can be best implemented by the use of a research and design paradigm called the Systems Approach. Although it has been widely used in other fields of endeavor, the Systems Approach is a rather novel methodology in educational research, and its use in guidance is certainly innovative.

The Systems Approach appeared to be the only design method fully compatible and congruent with the system-like guidance view introduced in our first assumption. In the next two paragraphs, we will render a brief description of the systems approach as applied in the development of man-made entities.

The systems approach* to the development of systems offers a decision-making structure and a set of decision-making strategies. It makes

*Bela H. Banathy, Instructional Systems, Palo Alto, California: Fearon, 1968 available for the designer a self-correcting, logical process for the planning, development, and implementation of man-made organisms. It provides a procedural framework within which the purpose of the system is first specified and then analyzed in order to find out what functions have to be accomplished for the attainment of the purpose. Based on this finding, components can then be selected which are judged to be best to carry out the specified functions. Next, systems planning will ensure that components will be scheduled and will be available at the proper time with appropriate characteristics in order to accomplish functions which lead to the fulfillment of the stated purpose. Finally, evaluation continuously oversees the implementation of the purpose and becomes a basis for planned change for the improvement of economy and performance.

The application of the systems approach to the development and maintenance of systems makes it, therefore, possible to ensure that the performance specifications prescribed for the output will be met, or, if not, then performance shortcomings can be clearly assessed and reasons for failing to meet the expected output performance will be identified and located. Based on this data, appropriate adjustments can be identified and implemented in the operation and in the components of the system in order to achieve the desired state of output and to optimize the effectiveness and economy of the system.

The methodology described above was planned to be applied in our research in order to create a model for an educational system. This model was used to design a learning task-centered guidance program, which then might offer itself as a model for the design of counseling systems on any level of schooling.

Based on the two-part rationale introduced above, we can now state the overall objective of the research.

THE RESEARCH OBJECTIVE

The overall objective of the research was to evolve a guidance model composed of a decision-making structure and decision-making strategies, which can be used for the development of learning task-centered guidance programs on all levels of schooling.

THE RESEARCH PLAN

The Definition of Research was to: (1) assess need; (2) state problem and purposes, (3) develop the research rationale and the research objective (all described above) and (4) ~~formulate~~ the research plan.

Step 1: Reviewed and analyzed relevant research and literature. Analyzed the outcome of the guidance project conducted during spring, 1967, for the purpose of evolving from it baseline data which was input information for this proposed research.

Step 2: Based on the systems approach a strategy for the design of a paradigm for the development of a learning-task oriented guidance program was developed.

Step 3: Developed and described the paradigm.

Step 4: Based on the paradigm developed a learning task-centered guidance program composed of a set of pre-installation strategies, such as:

a. Train the components of the system within the overall learning model.

b. Pretest the subsystems in a "dry run."

c. Based on findings, make necessary changes.

Step 5: The operational evaluation will include the following steps:

a. Install the designed system into the original program.

b. Measure outcomes and evaluate.

c. Improve effectiveness and economy of the designed system by introducing changes based upon the feedback received from the evaluation.

Step 6: Write up project and submit evaluation results to funding agency.

Step 7: Information gathered as a result of this project will be disseminated in the following manner:

a. Visitors will be encouraged to discuss activities and results undertaken by project participants.

b. The project director will seek opportunities to disseminate findings through appropriate professional journal publications.

c. The project director will seek opportunities to disseminate findings through presentations at interested professional conferences.

Critical Review of Relevant Literature

Logical analysis applied to systems approach in education is long overdue. In the absence of logical analysis, we have, in education, relied very heavily upon intuition and experiences alone.

The systems approach offers educators a logical, psychologically-based technique for analyzing, coordinating, and controlling the complex of interrelated factors which contribute to the output of an educational institution--an educated person. A major requirement of systems approach is the specification of outputs--a delineation of desired terminal educational behaviors. In addition, it is likely that decisions formulated within the framework of systems approach will be locally oriented perceptions derived from local pressures and interpretations of needs. (Goldberg, 1965)

The state of affairs in the field of guidance demands a thorough re-evaluation. Factors contributing to the difficulties of present guidance practices stem from professional awareness that guidance programs are usually ill-conceived, ill-defined. Moreover, they are poorly practiced and poorly articulated. Little research has been concentrated on the question concerning identification of terminal behaviors expected as a result of guidance practices; and further, it is often only an assumption on the part of "vested interests" which pre-suppose that guidance counselors are the only persons qualified to bring about any particular desired outcome as a result of this practice.

Krumboltz (1965) stated that the literature in the field of guidance is woefully weak in presenting specific methods and techniques that will lead to specific outputs with a known degree of probability.

Generally, education is facing a constant dilemma. Educational expenditures are rising faster than income. Implications cited by O'Toole (1965) indicate an ever-increasing tax rate, both income and property, and it appears that this cost of education burden will fall upon the local property taxes if present conditions prevail. Resistance is rising to increased school expenditures, and this resistance is being felt at the local level in education. Less than a decade ago, it seemed that school bonds always passed without questions; now they are not always passed. Certainly they are not passed without considerable effort on the part of the petitioning school district. Pacific Grove Unified is a case in point. In 1967, we had to try twice before an override tax levy passed, even though to have lost would have made the district unable to operate its schools.

O'Toole points out another factor, one which is more directly relevant to guidance. There is a need for increased logical analysis of educational long-range planning in order that today's decision-making will prove more accurate in the long run. The kinds of long-range planning include the need to specify educational objectives, assigning program priorities, evaluating program progress, and terminating or modifying programs when they are no longer meeting stated objectives and/or priority.

The great challenge to education is the ability to identify its critical problems and to conceive ideas and solutions to them. If we can assume the above to be true by definition, then it is important to develop a problem solving-oriented methodology, a systems approach, which reflects logical analysis to these critical problems as they arise and become identified.

Optner (1965) defines problem-solving as an activity that maintains or improves a system's performance. A system is maintained or improved through the introduction of changes that utilize resources more effectively. The total system consists of all the objects, attributes, and relationships necessary to accomplish an objective, gives a number of constraints (the boundary of a system--the conditions the system intends to operate).

Approach

The approach of this paper will be that of searching for relevant literature related to (1) the development of systems paradigms, (2) the development of systems models, (3) the systems approach as it is related to guidance, and (4) the establishment of learning tasks related to kindergarten. In systems approach, the development of a paradigm involves finding research relevant to procedures for building a model (the review will concentrate upon systems vis-à-vis education). The development of a model involves finding research which shows evidence of systems models. Next, this paper will look to the field guidance directly and discuss how systems has been previously applied in this area. Lastly, this paper will look at the product of learning objectives in kindergarten education and review research vis-à-vis learning tasks. (For detailed discussion of this review, please refer to Appendix A)

Findings of the Pilot Project

Background

In March 1968, a pilot project was initiated in the Pacific Grove Unified School District aimed at the exploration of the use of the systems approach to guidance. Inasmuch the systems approach requires a clear statement of purpose around which to build a system, a purpose was searched for common to all subsystems of schooling; a purpose which, thus, would also become the purpose of guidance. It was proposed that schooling and its subsystems--such as guidance--should evolve around learning tasks to be accomplished in schools. Guidance was viewed as a subsystem interacting with other subsystems of the school in order to help each child attain specific learning outcomes. Other subsystems possibly include the instructional subsystems, administration, the home as a subsystem, and some others.

The kindergarten was selected as the level of education for which to investigate the implementation of this systems-oriented and learning task-centered guidance view.

During the initial stage of the pilot project, the research team--consisting of administrators, counselor, teachers, and a systems consultant--considered several domains of learning. This examination included social interaction, physical development, and decision making. Of these social interaction was given preference as the first to investigate. In this domain, several response classes, situational contexts, and interaction patterns were studied. As an outcome, one class of response and one situational context were selected and a set of interaction patterns was identified. Based on these data, a behavioral objective was formulated which became the baseline for an analysis of learning tasks. As an outcome of this analysis, a set of twelve learning tasks was identified. It was suggested that the mastering of these tasks will enable the child to behave in the way described in the objectives. (Please refer to Appendix B)

Having reached this point, it was decided to relate these tasks to the home subsystems. The purpose of this undertaking was to determine what parents can do to bring about attitudinal and behavioral changes in their kindergarten children in order to facilitate the attainment of the selected social interaction objective. A team of parents, the kindergarten teacher, and the elementary counselor met a couple of times to explore the feasibility of developing a home sub-system.

Report of Data

The data which was accumulated during the pilot project can be grouped into two categories: (1) Data relevant to the initial exploration* and (2) Data pertinent to the specified social interaction learning for which an objective was formulated and learning tasks were analyzed. In this writing, only the second category will be reported.

---

*Note: The data accumulated during this initial exploration relates to the domains of physical development and decision making and to the different classes of behavior, situational contexts, and interaction patterns. These data were reported both in the minutes of the research meetings and in the final report of the pilot project. (Instructional Systems Development: A Systems Analysis Research Design. Pacific Grove Unified School District.)

Of the several possible classes of responses in the social interaction domain, social interaction with adults and peers were selected; more specifically, interaction through communication involving verbal exchange, kinesthetics, and physical distance factors. As situational context, the listening post and story telling were nominated. Interaction patterns selected were: child-teacher, child-peers. Based on the data reported above, the following behavioral objective was formulated:

In a kindergarten class, under the guidance of the teacher and having heard a recording at a listening post, a child within a group of six to eight children will participate in a discussion of the story. It is expected that within a four week period (for each child) an increase of frequency of verbalization will occur.

Based on the objective, the research team explored the inquiry: What has to be learned by the child so that he can behave in the way described in the objective? The outcome of this inquiry was a set of learning tasks, which are listed as follows:

1. Verbal Interaction
    a. Child and Teacher. The child learns that:
        (1) The teacher listens to him;
        (2) There are activities related to verbalization in which he is expected to participate;

(3) He gains positive reinforcement when he does what is expected of him;

(4) He can feel comfortable verbalizing in the presence of his teacher;

(5) He will be stimulated into verbal participation through verbal and nonverbal cues by the teacher;

(6) He will be discouraged from irrelevant and excessive verbalization through verbal and non-verbal cues by the teacher;

(7) He will gain approval following the teacher's model of language usage. (He will begin to listen to his teacher's statements for correct verbal order and use);

(8) He must learn to focus on a topic discussion with purposeful verbalization (therefore, as a result of this recognition, he is going to listen).

b. Child and Peers. The child learns:

(1) To develop a respect for another child's turn to talk;

(2) To take his turn to participate (not usurping someone else's turn; also expected to participate when it is his turn);

(3) To listen and make comments on what others are saying in the group;

(4) To develop a tolerance for criticism from others in the group;

(5) To create an understanding of behavioral constraints while participating in a group discussion for a reasonable period of time--such as while jumping around, shouting or not paying attention;

(6) To discriminate in listening and following peer models of language pattern;

    (a) He learns vocabulary and use of complete statements;

    (b) The particular concern is not with writing out learning tasks for speech development, but for social interaction.

2. Feeling Comfortable

   a. Child and Teacher. The child learns that:

      (1) He can come to the teacher for help;

      (2) The teacher is there to protect him (surrogate mother);

      (3) The teacher is a friend--basic trust of an adult;

      (4) When he speaks to the teacher she will listen to him;

      (5) He will respond to the teacher's cues and limits.

   b. Child and Peers. The child learns:

      (1) To listen when other children talk;

      (2) That when he speaks, other children will listen;

      (3) To take his turn in group discussion or interaction in a formal or informal situation;

      (4) To listen and respect points of view from other children;

      (5) The give and take of other childrens' criticism;

      (6) That standards or rules for one are for all and that he is a part of the group;

      (7) That group approval and disapproval (group sentiment) give more awareness and sensitivity to the feelings of the group in which he is participating.

3. Input Competence (The actual learning task was computed by subtracting the input competence from the expected competence.)

   a. Verbal Interaction - Child and Adults.

      (1) It is expected that each child entering kindergarten for the first time will have learned certain experiences.

      (2) It is expected that each child entering kindergarten will have learned a range of verbal interactions with adults in the family. This range varies from little or no verbal participation to such things as dinner table discussion, church school experiences, family council, or nursery school participation. (The input competence is related to the extent he has participated under experiences in (2) above.)

(3) It is expected that each child entering kindergarten will have had verbal experiences with family member adults and neighborhood adults. (Competence depends on previous experiences he has had with adults prior to kindergarten).

(4) It is expected that each child entering kindergarten will have a range of experiences dealing with verbal and non-verbal cues, such as father asking the child about what experiences he has had during the day, "What did you do today?" (The input competence is related to the extent he has participated.)

(5) It is expected that each child entering kindergarten will have had limited learning experiences on how to focus conversations with adults on specific topics.

    (a) Unless a child has participated in a structured situation such as church school, nursery school, etc., of verbal and non-verbal activities, minimum competence is expected in this area.

    (b) A wide range of differences among entering kindergarten children is expected due to a wide range of differences in socio-economic and cultural background.

b. Verbal Interaction--Child and Peers

(1) It is expected that each child entering kindergarten for the first time will have learned certain experiences.

(2) It is expected that each child entering kindergarten will have learned a range of verbal interactions with his peers. This range varies from little or no verbal participation with a child and his peers to such things as nursery and church school, neighborhood play groups, families of more than one, and discussion with other siblings.

(3) It is expected that each child entering kindergarten will have had experiences of taking turns by joining in actively and cooperatively in an activity requiring verbal interaction which is in progress.

(4) It is expected that each child entering kindergarten will have had experiences requiring an ability to listen and then to make comments on what others are saying in a group.

(5) It is expected that each child entering kindergarten will have had experiences requiring the development of a tolerance for the criticism of others who are assembled in a group. (Expectation will be that such will be from zero to little or a limited experience.)

(6) It is expected that each child entering kindergarten will have had experiences requiring the attainment of an understanding of behavioral constraints while engaging in a group discussion for a reasonable period of time (such as being overly active, noisy, or inattentive). (This is a less structured situation and will range from no structure to limited structured group experiences.)

c. Feeling Comfortable--Child and Adult

(1) It is expected that each child entering kindergarten will have learned to experience friendship with some adult outside the family. (This will be assessed by a checklist of expectations from parents or from the child directly by questioning.)

(2) It is expected that each child entering kindergarten will have experienced situations in which an adult has been helpful in a positive way to him. (This will be assessed by a checklist of expectations from parents concerning their kindergarten child or directly from the child by questioning.)

(3) It is expected that each child entering kindergarten has had a trusting experience (as above in item 2) in baby sitting, nursery school, child care, doctors, hospitals, clinics.

(4) It is expected that each child entering kindergarten learn to follow patterns established at home (tone of voice, gestures--verbal and non-verbal cues, acceptance and rejection of ideas--consistency of clues by parents and teachers).

(5) It is expected that each child entering kindergarten will listen and respect points of view from other children. (a negative or zero assumption; most children have not had many experiences to be listened to by adults.)

(a) Ask the parent, "When did you last listen to your child--and give instances. What does your child tell you about __________?"--frequency; the last occasion; how frequently.

(b) Responses should be pointed toward quality and relevancy of topics being discussed.

(c) The child should be able to do things on his own--in a not too structured situation.

d. Feeling Comfortable--Child and Peers

(1) It is expected that the child learns to listen when other children talk

(a) Expectation is that it is seldom done unless previous experiences have been gained in nursery school, church school, etc.

(b) Find out if he has had organized group experiences in church, nursery, etc., and what kind of contacts he has had with organized groups.

(c) Any kind of group experiences with others is helpful--from formal to informal, which is usually considered best.

(2) It is expected that each child entering kindergarten, when speaking, causes other children to listen.

(3) The child learns to listen to the points of view from other children.

(4) He takes his turn in group discussion and interaction.

(5) He learns the give and take of other children's criticism--all of the above can be expected to be present to the degree that the child has experienced in formal and informal group relationships.

4. Actual Learning Tasks

a. Verbal Interaction

(1) All items listed under the sub-headings of "verbal interaction" are accepted as learning tasks.

(2) The learning tasks as outlined under the area, "verbal interaction" are accepted as a logical sequence within a learning structure. That is, one learning task is expected to be experienced before another.

b. Feeling Comfortable

(1) All items listed under the sub-heading of "feeling comfortable" are accepted as learning tasks.

(2) The learning tasks as outlined under the area "feeling comfortable" are accepted as a logical sequence within a learning structure. That is, one learning task is expected to be experienced before another.

5. Findings of Parent-Teacher-Counselor Meeting

   a. Verbal Interaction

      (1) What can the family do in order to help the child?

      (2) The following is a suggestion to parents; it is not all-inclusive: Develop a respect for another child's turn to talk. (Child and Peers)

         (a) When there are siblings, parents should insist on each child allowing another his full time to talk in family councils, at the dinner table, on family outings, and in organized or supervised games requiring verbal participation.

         (b) Parents should assure their children that each will be allowed time to speak without interruption when given time to talk.

         (c) Parents should set a good example for listening and taking turns when speaking in the presence of their child.

   b. Feeling Comfortable

      (1) What can the family do in order to help the child?

      (2) The following are suggestions to parents. These suggestions are not all-inclusive.

         (a) To learn that he can go to the teacher for help. (Child and Teacher)

            (1) Pay attention to your child when he talks.

            (2) Sit down with the child--listen and talk with him.

            (3) Allow some time during the day when the child is the primary focus of the parents' existence.

            (4) Do something beyond the usual routine for the child: play with him; talk with him; read with/to him.

         (b) The teacher is a friend--basic trust of an adult. The child can learn to trust other adults in his environment by having parents involve relatives and friends of the family. (The adult should make an effort to pay attention to the child by listening and talking with him.)

Evaluation of Data and Implications for Current Research

Two inquiries guided the analysis: What are the implications of the data for the design of a systems-oriented and learning task-centered guidance program? What use can we make of the data in the current project?

Implications of the Findings

The research reported here was based on two assumptions. Relevance and implications of findings was thus examined within the context of these two assumptions.

The first assumption was that inasmuch as the purpose of schooling is to bring about changes (called learning) in pupils, the nucleus around which to design schooling should be specific learning tasks. Once learning tasks are defined, we need to identify whatever has to be done, or what functions have to be accomplished, in order to facilitate the mastering of learning tasks. It was expected that from this inquiry certain guidance functions will emerge as requirements for the attainment of tasks, and consequently, guidance personnel may be considered as components best suited to carry out such functions. These two expectations were further investigated and tested in the research.

The second assumption was that the guidance view inherent in the first assumption can be best implemented by the use of the research and design paradigm, called systems approach.

The majority of the data accumulated during the pilot project consisted of the identification and description of sets of learning tasks. It specified learning which needed to be accomplished in order to enable the learner to perform in the way described in the objective. Given a set of learning tasks, and based on this set, the design of the instructional systen proceeded. As a first step of this design effort, functions needed to be nominated which were to be accomplished for the facilitation of the mastery of learning tasks. Our pilot research indicated that among functions which will have to be considered are some of the guidance kind, such as the prediction, assessment, and measurement of input competence and input characteristics of the learner. We also identified certain interaction functions through which to communicate input findings to the child and to the instructional and home environment. Furthermore, certain systems design and systems maintenance functions appeared to also be of the guidance kind.

We discovered that learning tasks seemed to be a very logical, functional, and rational basis upon which to build instructional systems. We also concluded that the systems approach as a research and design paradigm has many advantages among them, such as forcing attention to the purpose of the system; and on the specification of this purpose. The systems approach provided a decision making structure and strategies which enabled us to build an instructional program which guarantees the attainment of the stated purpose.

The Utilization of Data

Findings produced as the outcome of the pilot research of last year and as reported were considered as baseline data constituting part of the research input. These findings, however, were further tested for applicability and adequacy.

Methods:

A Strategy for the Development of a Design Paradigm

Introduction

The Large Steps Research Plan

The Research Paradigm for Step Two

--

Methods

The objective of this research was to install - in the first grade* environment - a learning task-centered and systems oriented guidance sub-system with its peer systems as a model of schooling. It was expected that the model will be used in subsequent research as a blueprint for the construction of guidance programs throughout the school.

Having this outcome expectation in mind, our immediate problem was to come up with a research plan or paradigm** which we can follow and thus carry out our research. We needed to devise a plan which was to enable us to design a learning task-centered and system oriented guidance model. In evolving this plan first we structured it in large steps and later, as we went along from one large step to the other, we further refined our plan and mapped out our detailed-in-between steps moves.

---

*Note that the objective as stated is somewhat more specific than our earlier statement. First grade was chosen after consultation between Dr. Robert Gagne and research staff. First grade is a critical entry level period in a child's school life. Formal schooling begins at this level and it was determined that guidance practice would have more meaning evolving from a more typical educational program.

**It is customary to call a plan for research a paradigm. One of the dictionary meanings of paradigm is pattern. Pattern is defined as an arragement or composition that suggests or reveals a design. (English, H. E. and English, A. C., A Comprehensive Dictionary of Psychological and Psychoanalytical Terms. New York: Longmans, Green and Co., 1958) It is this meaning that we are adopting here in using the term "paradigm". Paradigm implies the arrangement of research according to a planned design.

The outcome of the application of our research paradigm will be models of systems on different levels of abstraction. A model is defined as a representation of a thing or an example of something to be made. A model can represent reality or it can represent another model. For example a scaled down model of a train may represent a real train, or a map can represent a territory. On the other hand, a model of a train can be used for building another - somewhat different - model and a comprehensive map can be used as a model for a road map or a relief map.

The Large Steps Research Plan

Keeping in view that we were to install a guidance subsystem with its peer systems as a system of schooling; before we installed this system we needed to:

- a. Test it and train its components. Before testing and training we needed to:
  - b. Actually develop the system and schedule its operations. Before development and scheduling we had to:
    - c. Design our guidance model and its peer models as an educational model built around learning tasks. Prior to this design we needed to:
      - d. Construct a paradigm for the design of educational systems.

If we reverse the sequence we have the development sequence implied - and earlier described in our research plan.

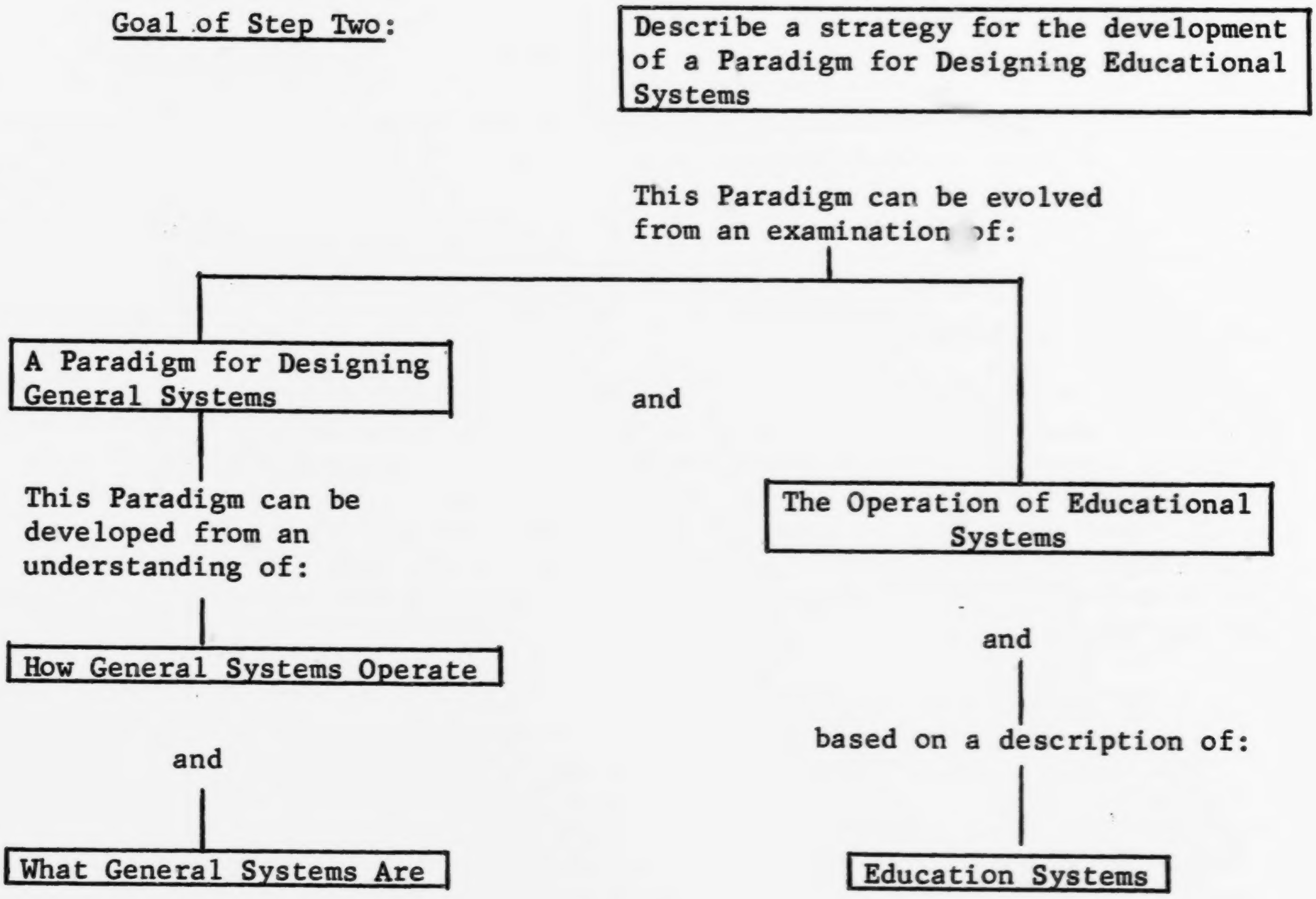
The Research Strategy

As an outcome of Step Two we want to produce a systems paradigm which will provide a plan for the design of educational systems. A paradigm for the design of educational systems will emerge from an examination of a paradigm for the design of general systems and from an observation of what educational systems are and how they operate. A paradigm for the design of general systems, on the other hand, can be evolved from an examination of what general systems look like and how they operate.

This broad plan is restated on more specific terms in the diagram used.

Diagram 1

EVOLVING THE RESEARCH PLAN

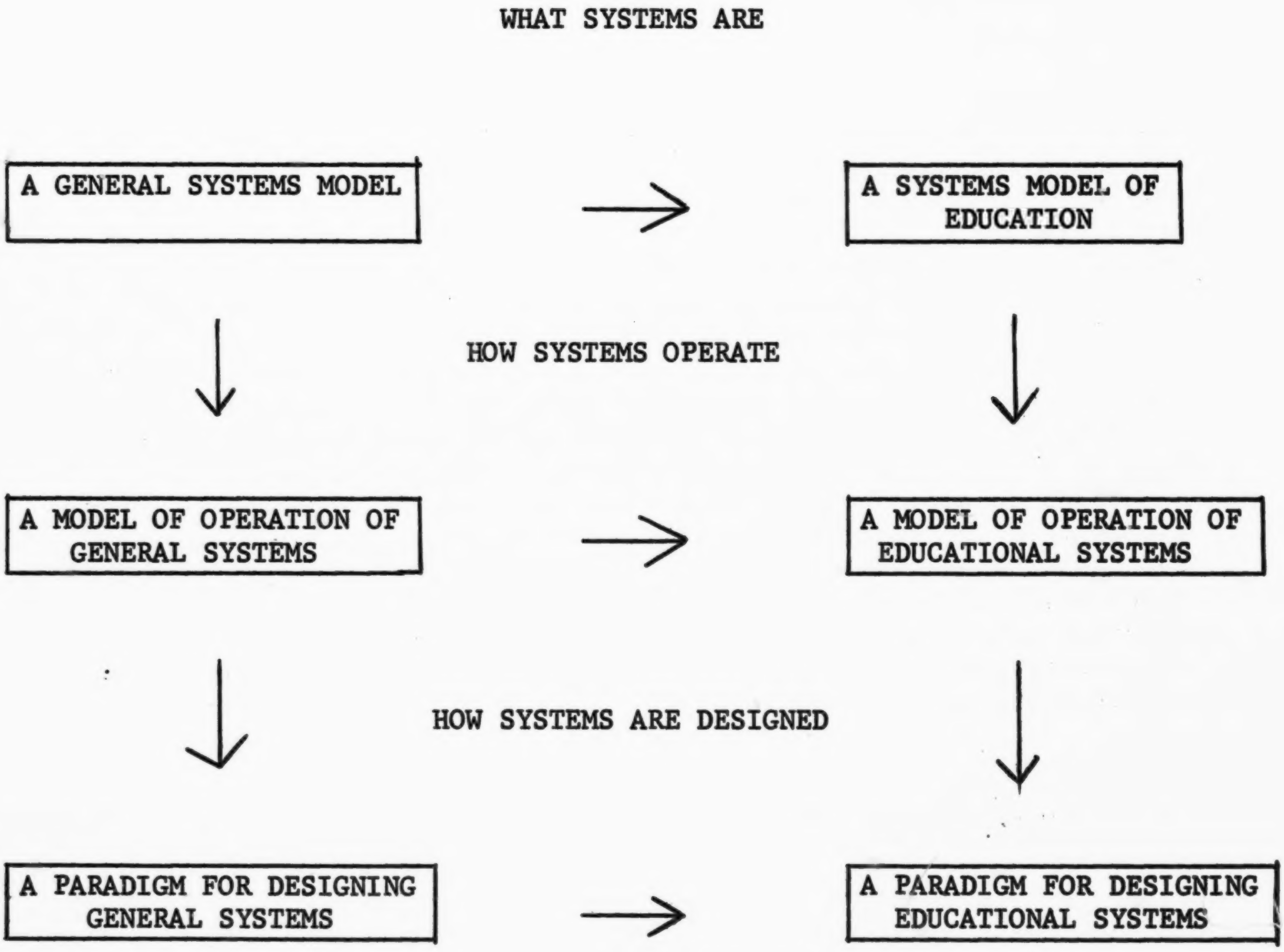

Goal of Step Two:
Describe a strategy for the development of a Paradigm for Designing Educational Systems
This Paradigm can be evolved from an examination of:
A Paradigm for Designing General Systems
and
The Operation of Educational Systems
This Paradigm can be developed from an understanding of:
How General Systems Operate
and
What General Systems Are
and
based on a description of:
Education Systems

A description of the operation of educational systems was based on an understanding of how general systems operate and an educational model will be described based on the general systems model.

The departmental sequence of a research, aiming to establish a paradigm for designing educational systems is presented in the diagram next.

Diagram 2

THE RESEARCH STRATEGY


WHAT SYSTEMS ARE
A GENERAL SYSTEMS MODEL
A SYSTEMS MODEL OF EDUCATION
HOW SYSTEMS OPERATE
A MODEL OF OPERATION OF GENERAL SYSTEMS
A MODEL OF OPERATION OF EDUCATIONAL SYSTEMS
HOW SYSTEMS ARE DESIGNED
A PARADIGM FOR DESIGNING GENERAL SYSTEMS
A PARADIGM FOR DESIGNING EDUCATIONAL SYSTEMS

The outcome of the application of the strategy outlined above was the construction of a paradigm for designing education systems. This paradigm will be described next.

The Design Paradigm

The application of the strategy described under step two led to the design of a paradigm which is presented here. The conceptual process of this application was discussed elsewhere*. The outcome of the process is presented now.

The Design of Systems

Systems are designed to accept input and to transform the input into a specified output. Instructional Systems** are designed to enhance the transformation of the learner into a state in which he possesses the knowledge, skills, attitudes, etc., which were specified as instructional goals. To bring about this output becomes the purpose of the system.

Even though a great variety of instructional systems are known, and they can be developed to produce great varieties of outputs, still the general plan for instructional design is a common one. This plan--called here the Systems Paradigm--offers a decision-making structure and a set of strategies as a self-correcting, logical process for design and development. According to this plan, first the purpose of the system is specified and analyzed in order to identify the processes and functions which are to be carried out for the attainment of the purpose. Then, components are considered that are most suitable to the successful performance of required processes and functions. Systems planning will ensure that components needed will be available at the appropriate time and place to carry out specified functions. Finally, system control and adjustment methods are designed to ensure the purposed and adequate production and the economical operation of the system. The design of Systems is a process of continuing specification and refinement of needed input and expected output and of the planning in ever more detail of functions, components, their intergration, and their interactions, whereby the output state is to be achieved.

---

*Bela H. Banathy, Systems and Education, A Research Edition, 1969

**A detailed description of the application of systems concepts and systems view to instructional design appears in: Bela H. Banathy. Instructional Systems. Palo Alto, California: Fearon Publishers, 1968

From Systems to the Systems Paradigm

In the literature of systems applications, we find numerous suggestions as to how to use the systems approach to instructional design. Various flow charts and block diagrams are presented, projecting five-step, eight-step, fifteen-step, etc. schemes. Often--and too often--these schemes are offered without an explanation of how they were developed and how a particular scheme is related to systems theory or how it reflects the systems view. Thus, these schemes do not appear to be much more than prescriptions or recipes.

My contention is that the systems approach is more than a tool for design and analysis; it is more than a structure and a set of strategies for decision making. It is the implementation of systems theory in practice; it is the embodiment of the systems view.

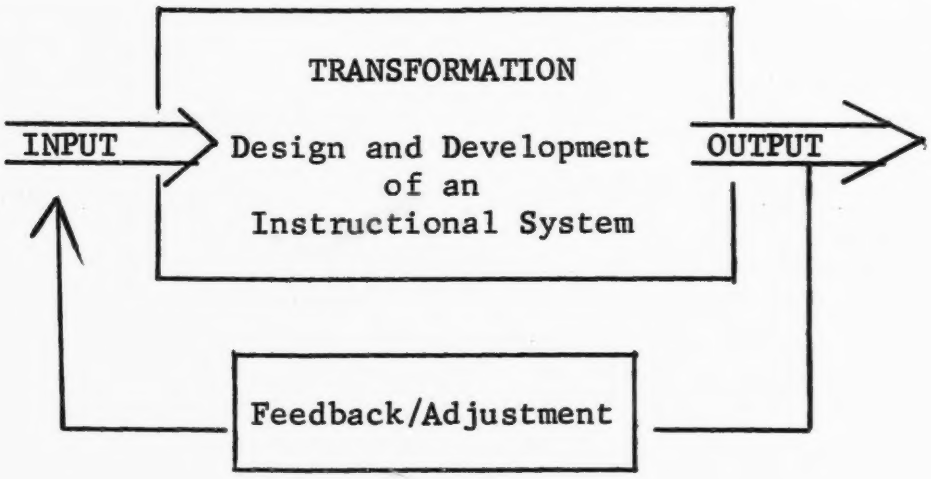
The design and development of a system can be conceived as a system in itself. It is a system-producing system. It is a viable system. It has an input, such as the educational requirements posited by the environment which the curriculum designed system is to satisfy. The operants, the operating material of the system, its resources, and constraints are other inputs. It has a system space within which processes have to be activated. These processes are carried out by components which have the specific design competences needed to transform the input into specified output: into a functional instructional system. Finally, this system-producing system also has feedback-adjustment, by which to correct for the diffence between the actual and desired output.

The diagram next depicts--with the use of a familiar model--curriculum design as a system-producing system.

Diagram 3

A MODEL OF A (CURRICULUM) PRODUCTION SYSTEM

SCHOOLING



The model above depicts the framework of an instructional system-producing-system. This system is part of the larger system (suprasystem) of Schooling. Its location--within the system of Schooling--most likely is the planning/adjustment (sub) system.

The system depicted above has four subsystems. The description of the operation of these subsystems will provide us a definition of the design strategies which are to be carried out in constructing instructional systems. The sum of these strategies is the system paradigm for instructional systems design.

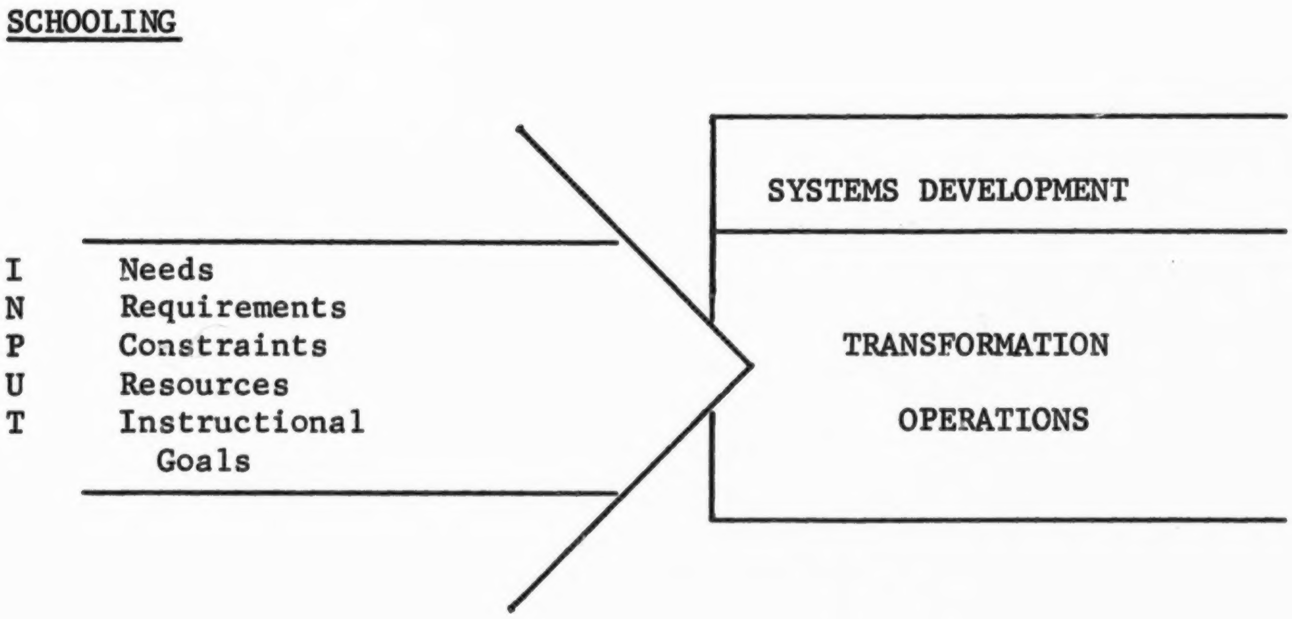
This paradigm will be described in the balance of this chapter in four parts corresponding to the four subsystems of a system-producing-system.

The Input and the Input Process

Certain needs might be indicated in the environment of schooling. Or an assessment can be made of such needs. Some of the needs can be conceptualized in terms of educational requirements. An analysis of these requirements--against existing curricula--might suggest the necessity to design new instructional programs. Resources available for design, and constraints within which the program is to operate, are stated. In view of the existing need, the stated requirements, resources, and constraints, the goal of the instructional program is formulated. The assumption is that the attainment of the goal will meet stated requirements and will satisfy the indicated need. Diagram depicts the input to a system of curriculum design.

Diagram 4

INPUT TO INSTRUCTIONAL SYSTEMS DEVELOPMENT



The diagram above and its earlier description also imply a process. Starting with an assessment of needs and the positing of (educational) requirements, through the analysis of resources needed and constraints to contend with, and ending with the statement of instructional goals; all these comprise a process which is conceived as the INPUT PROCESS of a system of curriculum design.

TRANSFORMATION

The input introduced into the systems space of curriculum design will activate certain operations which will transfer the input into output. The transformation process of instructional systems development has two major phases and each phase consists of a set of strategies. The nature of the first phase is primarily one of analysis and the second, the design phase, is basically one of synthesis. It should be noted, however, that in systems development these two processes are usually interacting, even though one of them tends to dominate at certain phases of development and design.

The Analysis Phase

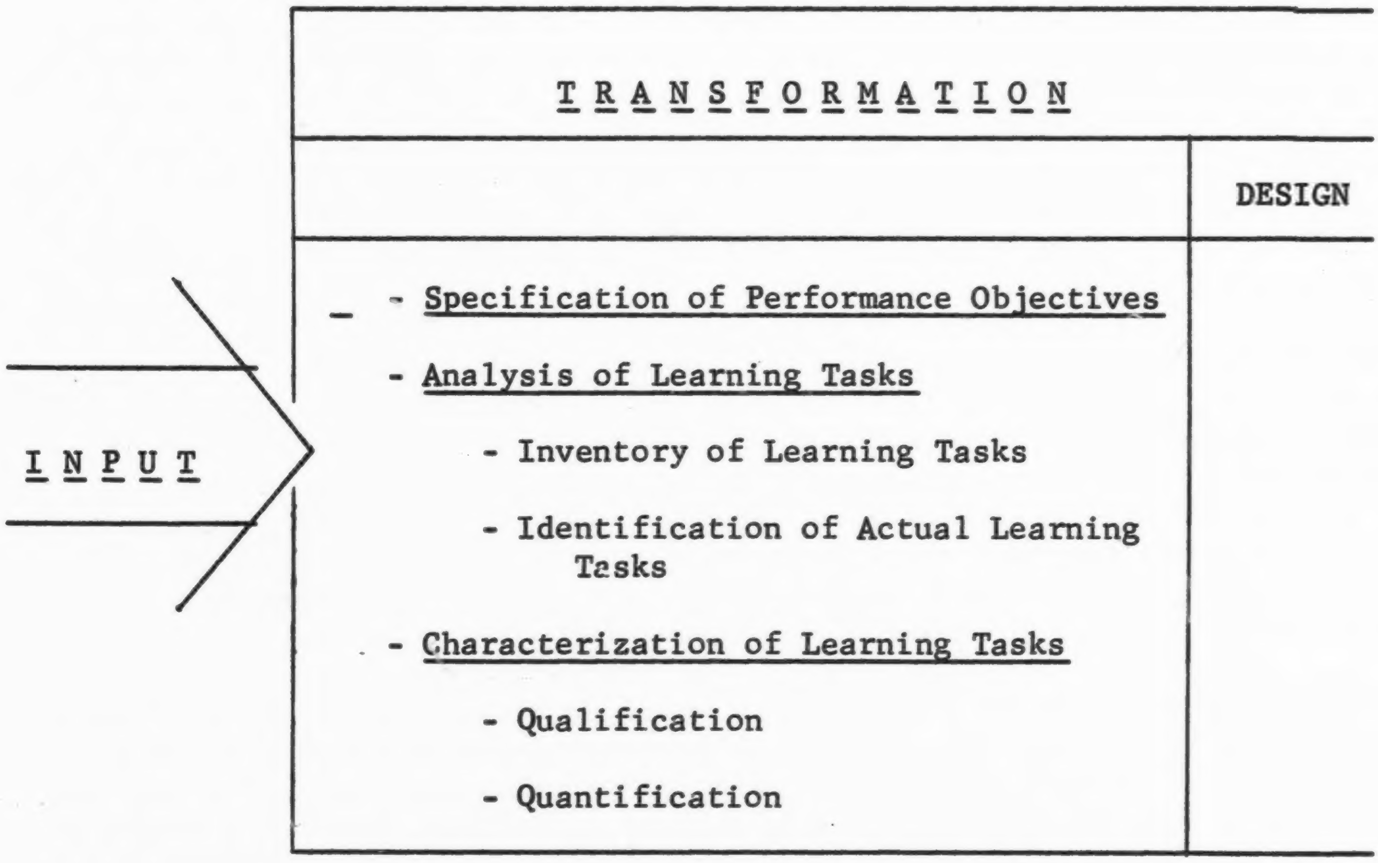
The first phase starts out with an analysis of the input, and primarily with an analysis of the instructional goal. The strategy of this analysis calls for a gradual specification of the goal into a set of performance objectives which will define whatever the learner is expected to be able to do, know, and feel as the outcome of the instructional program. This process of formulating performance objectives is rather well known, and we are acquiring increasingly more competence in designing and working with instructional objectives.

The second strategy of the analysis phase, however, is often overlooked. This strategy is the identification and characterization of learning tasks. Once we have stated the performance expectations of the learner, we need to ask the question: What has to be learned by him in order to be able to perform in the way described in the objectives? It is only in the psychomotor domain of performance that a statement of performance might directly reveal the learning task. In the other behavioral domains, learning tasks can be inferred only through a process of analysis. As an outcome of this analysis, we shall come up with an inventory of learning tasks. Usually, we shall find that the learner has already mastered some of the tasks. The set of actual learning tasks will thus be computed by subtracting from the inventory those items which have been already mastered by the learner. As a final step, we need to characterize the learning task. Characterization means the application of two additional strategies: qualification and quantification. Qualification identifies the type of learning a task represents, such as: response learning, chain, discrimination, concept, or principle learning. Quantification is an assessment of the difficulty which the task poses to the learner.

The strategies described above are reviewed in Diagram.

Diagram 5

STRATEGIES OF ANALYSIS



- Specification of Performance Objectives
- Analysis of Learning Tasks
    - Inventory of Learning Tasks
    - Identification of Actual Learning Tasks
- Characterization of Learning Tasks
    - Qualification
    - Quantification

The Design Phase

The second phase of the transformation process of instructional systems development is the synthesis or design phase. The output of the analysis phase is a set of learning tasks which become input into the design phase.

The initial inquiry of the design phase is: What has to be done by the instructional system in order to help the learner to master the learning tasks? Pursuing this inquiry, we shall identify a set of functions which the system has to provide for in order to facilitate the transformation of the learner from the input state to the output state. The first function is to consider alternative items of content and select the ones through which the learner can best confront the learning task. The second function is to design a learning environment in which the content will be mediated to the student through specific learning experiences. Thirdly, strategies are to be invented for the management of the learner, for his involvement in the learning experience and for the maintenance of his involvement throughout learning. The fourth function is the continuous monitoring of both the progress of the learner and the operation of the system.

The second main strategy of the design is the consideration of components: the selection of human, media, and other material resources which can be engaged in the functions identified. Components will be selected based on their assessed and measured potential to accomplish the functions for which they are considered.

In identifying functions and in selecting components, the designer will consider alternatives and select those which promise the greatest potential for the facilitation of the mastery of the learning task, with the highest possible efficiency of utilization, and at the lowest possible cost to the system. This three-pronged requirement demands a trade-off process, the outcome of which will be the distribution and scheduling of systems functions among components.

These design strategies will produce an integrated system of common design which, if implemented, will bring about a patterned interaction of system components. System planning ensures that components will be available at the appropriate time and with the characteristics needed to attend system functions which are required for the attainment of the goals of the system.

Prior to implementation, the program developed should be tried out or pretested and, if indicated, its components should be trained.

The strategies of systems design are reviewed in Diagram. 6.

Diagram 6

DESIGN STRATEGIES

TRANSFORMATION/SYSTEMS DEVELOPMENT	
ANALYSIS	DESIGN
Objectives, Learning Tasks, and Their Characteristics →	- Functions to provide for: - Design Content - Design Learning Experiences - Manage the Learner - Monitor Learner's Progress and Systems Operations - Components Design - Select Components to Carry Out Functions - Distribute and Schedule - System Integration - Pre-test and Train

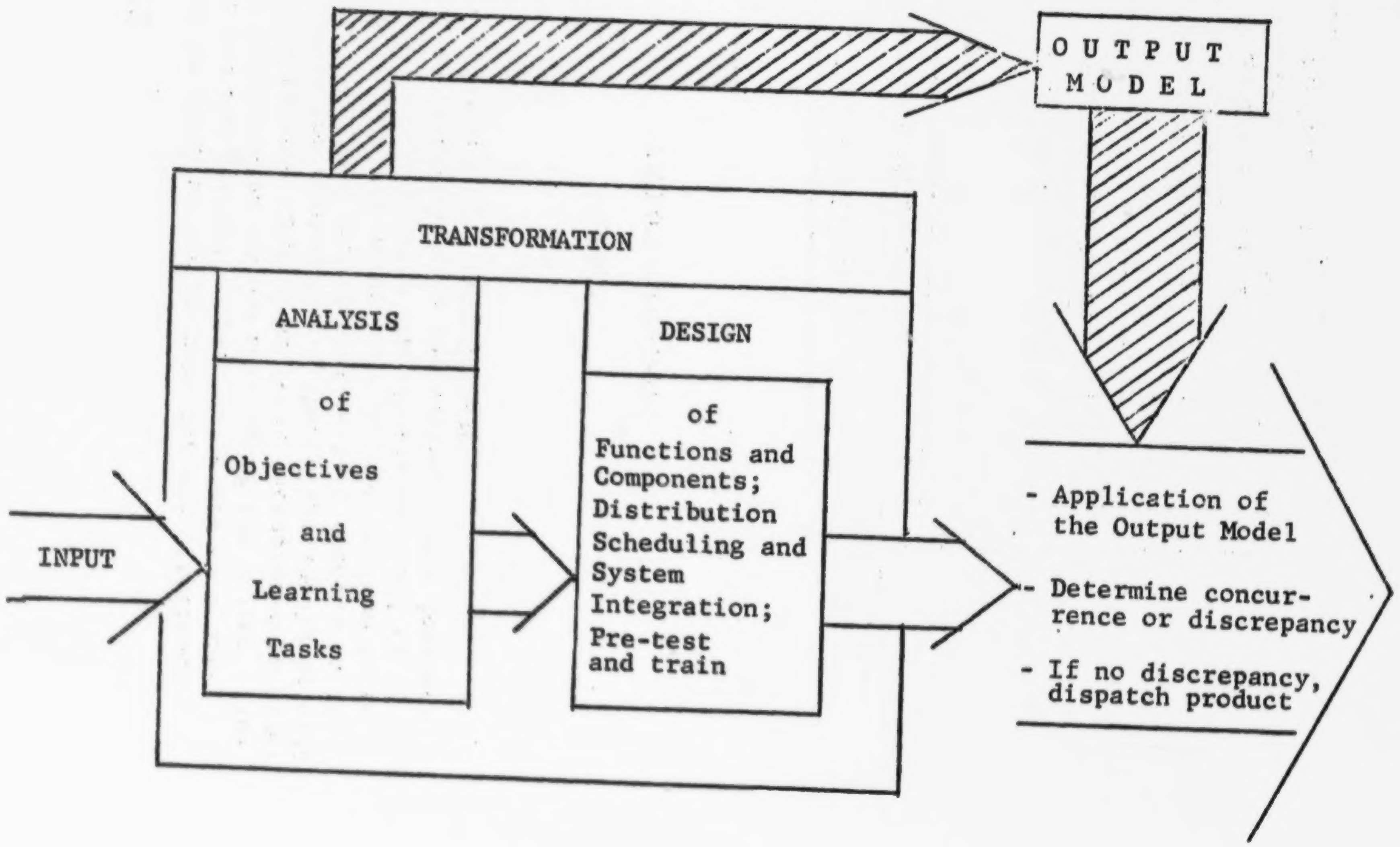
As an outcome of systems development, an instructional system is designed which can be moved toward output and implementation.

OUTPUT

The process of output consists of several strategies. First, the designed instructional system needs to be tested against the output model in order to measure the extent to which the program--as developed--will ensure the attainment of performance objectives. This testing is usually conducted as a pilot implementation of the program. Test findings will indicate if there is any discrepancy between the actual and expected output. If there is no (significant) discrepancy, the program can be released for implementation. If there is a difference between what is and what should be, then we have to correct for the difference. (These output strategies are reveiwed in Diagram.)

Diagram 7

OUTPUT STRATEGIES

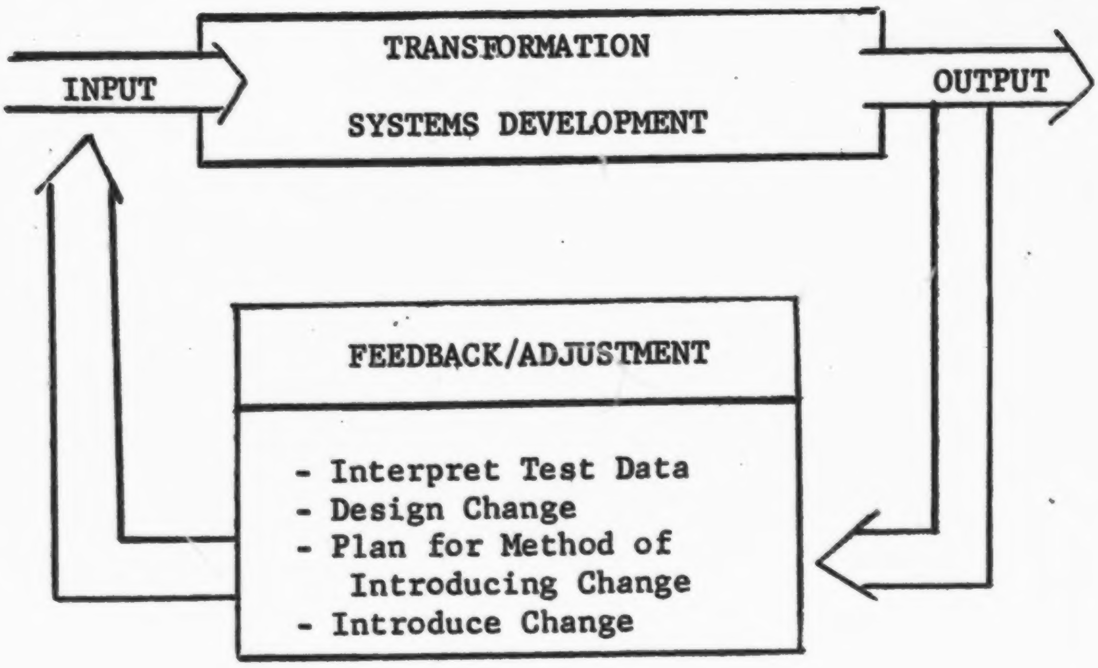

OUTPUT MODEL
TRANSFORMATION
ANALYSIS
of Objectives and Learning Tasks
DESIGN
of Functions and Components; Distribution Scheduling and System Integration; Pre-test and train
INPUT
- Application of the Output Model
- Determine concurrence or discrepancy
- If no discrepancy, dispatch product

FEEDBACK/ADJUSTMENT

These are processes by which we can correct for the difference between the actual and the desired output. If there is a difference, this will be indicated by the testing of the output. The data gained from this testing need to be first interpreted in order to locate the source of the discrepancy. Then plans should be made to overcome the discrepancy by considering certain changes in the system. Next we shall consider strategies for the optimum introduction of these changes and finally the adjustment model or change plan will be reintroduced into the system. This feedback/adjustment process is depicted in next Diagram.

Diagram 8

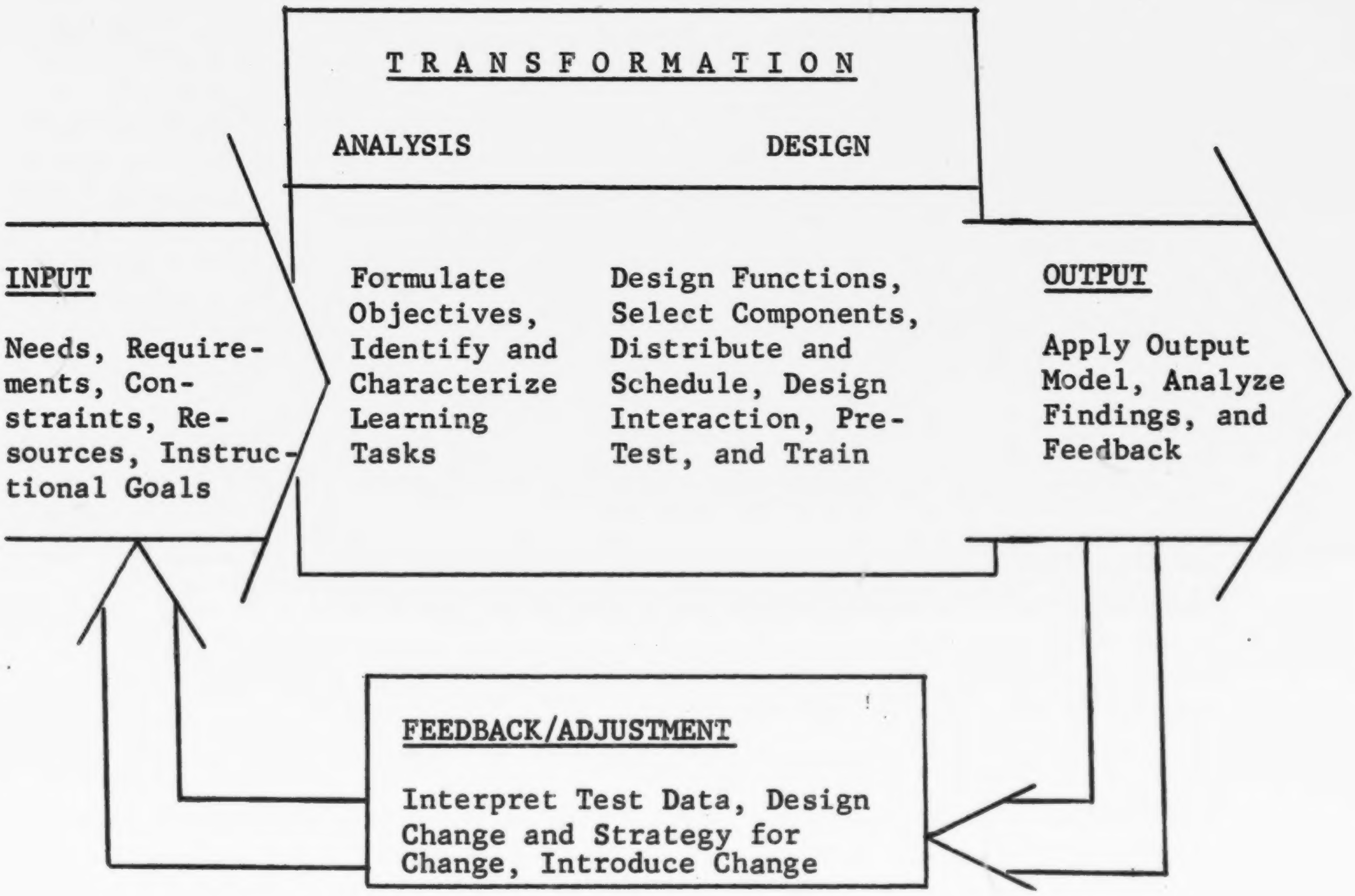
FEEDBACK/ADJUSTMENT


INPUT
TRANSFORMATION
SYSTEMS DEVELOPMENT
OUTPUT
FEEDBACK/ADJUSTMENT
- Interpret Test Data
- Design Change
- Plan for Method of Introducing Change
- Introduce Change

From a description of the process of instructional design in the systems mode has emerged a paradigm--a research plan--for the development of instructional systems. This paradigm is now reviewed summarily in Diagram.

Diagram 9

THE SYSTEMS DESIGN PARADIGM


TRANSFORMATION
ANALYSIS
DESIGN
INPUT
Needs, Requirements, Constraints, Resources, Instructional Goals
Formulate Objectives, Identify and Characterize Learning Tasks
Design Functions, Select Components, Distribute and Schedule, Design Interaction, Pre-Test, and Train
OUTPUT
Apply Output Model, Analyze Findings, and Feedback
FEEDBACK/ADJUSTMENT
Interpret Test Data, Design Change and Strategy for Change, Introduce Change

By way of summary, the development of instructional systems has been conceptualized here as a system-producing system. It produces instructional systems by engaging in the transformation of input--coming from the environment of schooling--into output; into instructional programs which will ensure the attainment of instructional goals.

The paradigm described above was used to develop a learning task-centered program of schooling with special attention to guidance.

Results

In order to evolve appropriate resultant roles in guidance and counseling within the context of this educational systems design, it was necessary to write model curriculum units. (Please refer to Appendix C) Two curriculum domains were considered--(1) Selective Listening and (2) Oral Communication. These curriculum domains were typical areas of academic concern in a first grade curriculum. Guidance and counseling roles that evolved were of a direct consequence of these curriculum building activities.

Prior to the assignment of guidance and counseling of roles consideration was given to determine which member of the interdisciplinary school research team possessed the required competencies.

The following represents the guidance and counseling activities that evolved during the preparation of the aforementioned curriculum units. The guidance and counseling representative acted as a behavioral consultant to the interdisciplinary school research team which consisted of administrators, teachers and parents, regarding the development and interpretation of curriculum units. In addition this representative acted directly with teachers (administrators and parents tangentially) regarding the management of the learner within the classroom. Thirdly, this representative analyzed discrepancies noted between the learner's performance and the prescribed objectives. Subsequently in concern with the classroom teacher he assisted with the redesigning of learning experiences in order to more effectively meet individual needs of learners.

Another area considered appropriate for the guidance and counseling representative was the assignment of responsibility regarding the development and implementation of evaluation methods and instruments regarding desired objectives. This aspect was not fully explored due to the pilot nature of this project.

In addition to the identification of guidance and counseling roles directly related to purposes of instruction, our basic research activity made a contribution to systems research in general. A viable model was developed by which other school districts interested in re-examining their entire educational structure may do so. Further a new perception on how to look at an educational system has been devised and shown to be a workable product--a product capable of facilitating change overs in an organized and meaningful manner. Programs can take on new meaning and upgrading through the implementation of this educational systems model.

Conclusion

The major concern of this project was to find new ways of measuring the effectiveness of counseling and guidance. Increasingly school administrators are looking for positive and effective ways of measuring the values of instruction of which guidance and counseling is a part. In developing a new way to examine the value of counseling and guidance a new educational system evolved.

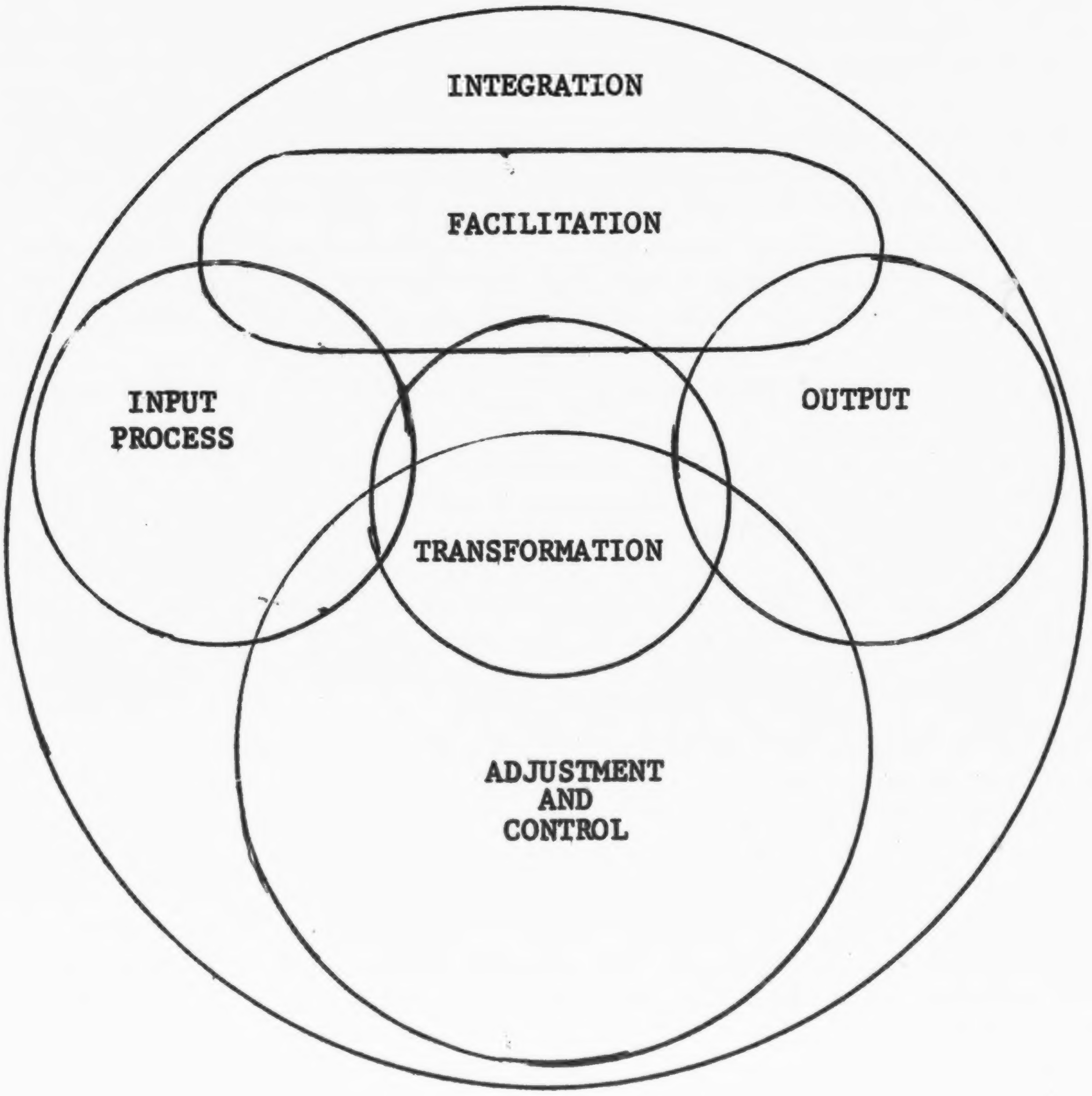
Basically this new system assumes that the instructional program is the focus upon which an educational system revolves. In turn all functions found within the educational system revolve around the instructional program. It is within this context that we concluded that we have evolved a new concept of schooling which presents a novel way of viewing functions within a typical school setting.

The following represents the schematic design (See attached design):

Initially the input processes subsystem was conceptualized. Functions within this subsystem included the formulation of goals, objectives, curriculum units; the determination of input competencies of the learners involved, and the establishment of relevancy in relation to the learner's needs in order to meet proposed learning objectives. In addition, participating learners, parents and other significant adults involved in the learning process made up the input subsystem.

Included within the formulation of goals, objectives and curriculum units were representatives of school administration, at both the district level and building level,of teaching faculties, of guidance and counseling and of parents of learners. The guidance counselor in concert with the teaching faculty representative were the determinators of the input competencies of the learners involved during the pilot application of the educational model. In regard to the establishment of relevancy in relation to the learner's needs in order to meet the proposed objectives, the teaching faculty representative in concert with guidance counselor, managed this function within the input system.

The actual implementation of the system--the interaction between the input team and the learners--is called the transformation process. It is here that the various components are scheduled for planned interaction with each child. Where the transfer of learning (transformation process) is taking place all forces are acting in concert.


INTEGRATION
FACILITATION
INPUT PROCESS
OUTPUT
TRANSFORMATION
ADJUSTMENT AND CONTROL

The transformation process was managed by the teaching faculty representative. Once input competencies of the learner were established and relevance to his needs determined the teaching faculty representative was responsible, by virtue of having the greatest amount of competency in the area, for the involvement of the learner, the preparing of external conditions under which the learning experience was to be carried out and the management and assessment of the learner within the learning environment. The guidance counselor was a behavioral consultant to the teaching faculty representative during each of these phases, particularly in the phase concerned with management of the learner.

There is a point at which the child emerges out of the transformation process with degrees of achievement vis-à-vis behavioral objectives. This point in the system's model is called the output. All the efforts expended during the input and transformation processes create for the child the conditions of the output stage. Subsequent to these interactions the teaching faculty representative and the guidance counselor collaborate to observe the child as he emerges from the transformation process.

A necessary part of this system is the feedback-control aspect which is called the adjustment stage. This stage is superimposed upon the whole system and can be felt at any time in each of the previously stated stages. The most likely places for adjustment are in the input and output stages. This quality control factor keeps the system functioning at its best possible efficiency--some children are not taught things they know already, and others have curriculum continually redefined to assist them to meet their learning objectives (adjustment).

Within the adjustment and quality control phase the guidance counselor and the teaching faculty representative established (1) whether the learner had met his prescribed objective(s) and was ready to progress to the next level of abstraction; (2) whether new learning experiences had to be provided to help learner meet the described objective; and/or (3) whether a new objective had to be written due to its inappropriateness to the learner's ability and interest level. Due to the pilot model approach taken behavior assessments in relation to meeting prescribed objectives were accomplished informally. These functions need to be more formalized in an operational phase.

The facilitation subsystem is overlaid onto the input, transformation and output subsystems. It is within this subsystem that all support material is developed and infused into the appropriate subsystem channel. The building administrator was seen to possess the competencies required for the fulfillment of this subsystem's tasks.

Continually pulling together all of the components within each of the subsystems in order that the entire educational systems design functions as a whole is the responsibility of the integration subsystem. The district level administrator was seen as the primary person responsible for the implementation of this subsystem in collaboration with the building administrator.

Thus it is the proposed conclusion of this project that a new, viable educational system model has been developed. It is now ready to be implemented operationally for extensive field testing. Furthermore this system identified a number of roles for a guidance counselor within a new context. The values of these roles can be analyzed for its cost--effectiveness more readily be administrators than by traditional methods. Moreover this project broadened the concept of guidance and counseling since evolved guidance and counseling roles were deemed to be appropriate, by virtue of possessing certain competencies, in each of the major subsystems involved with the facilitation of learning.

Of major importance is the evolvement of the counselor and teacher team in the educational process--each discipline complemented each other during both the instructional design implementation and evaluation phases. Further videotape recordings as a means to observe and evaluate performances of children was considered of supplemental value also. Utilizing videotaping of activities within an educational system which by implication individualize instruction it was found that more than one camera unit must be used and they must be mobile. In addition there must be a director familiar with the multiple activities taking place to assist cameramen with where they should be and when. This need suggests increased costs that have to be weighed vis-à-vis its effectiveness. For every observation a trained observer was found to be satisfactory.

Recommendations

It is recommended that the activities undertaken by this project be expanded into a broader educational context. That is to say, there is a need to further validate the effectiveness of suggested counselor roles by establishing control and experimental groups of adults and children utilizing the educational systems model developed and piloted during this project.

It is recommended that expertise be developed in specific areas of counseling such as curriculum development, child management, parent-school coordination, personal-social counseling, educational counseling, and vocational counseling. It is recommended that the roles of other significant adults be examined within the educational systems design product as well. Consideration of roles must take on an interdisciplinary re-evaluation in order to be effective and meaningful.

It is recommended that institutions of higher learning re-examine their current guidance counseling training programs and include greater emphasis upon curriculum development and child management activities.

It is recommended that institutions of higher learning and school districts nationwide institute training in systems theory and application as applied to public school education.

APPENDIX A

SELECTED BIBLIOGRAPHY

Ackoff, L. Russell. Scientific Method: Optimizing Applied Research Decisions. New York: Wiley, 1962

Ackoff, L. Russell. "Systems, Organizations and Interdisciplinary Research" Systems: Research and Design Donald P. Eckman (ed.) New York: John Wiley & Sons, Inc. 1961

Adelson, Marvin. "The Systems Approach: A Perspective, "Wilson Library Bulletin, 42(March, 1968) pp. 711-15

Asimow, Morris. Introduction to Design. Englewood Cliffs, N.J.: Prentice-Håll, Inc., 1962

Babick, Arthur. "An Experimental Program in Educational Adaptation, Case One. Audiovisual Instruction, May 1965. pp. 387-94

Banathy, Bela H. "Counseling and Guidance at the USALS" USALS Review, Winter, 1961

Banathy, Bela H. Designing Micro-Instructional Systems. Monterey, California: EDINN, Title III Center, 1968

Banathy, Bela H. "The Systems Approach" Modern Language Journal, May 1967

Banathy, Bela H. The Systems Approach to the Improvement of Foreign Language Education. (Presentation made to the October, 1966 Meeting of the Inter-Agency (Governmental) Round-Table Conference at Syracuse University)

Banathy, Bela H. Systems for Learning. Palo Alto, California: Fearon Publishers, 1968. (In Print)

Barson, John, John M. Gordon, Jr., and W. Russel Hornbaker. "Standard Operating Procedures for a Learning Resources Center: A System for Producing Systems" Audiovisual Instruction, May 1965. pp. 378-379

Bertalanffy, L. "An Outline of General Systems Theory" British Journal of Philosophical Science. 1:148; 1950.

von Bertalanffy, Ludwig. "General System Theory" Main Currents in Modern Thought. Vol. 71, 1955.

Beynon, Robert. "The Total Systems Concept: Research Implications" *Data Processing for Education*. Detroit, Mich.: American Data Processing, Inc., Vol. 5, No. 11, Dec., 1966. (Paper read at the National Conference on State Educational Information Systems, Univ. of Iowa, Iowa City, May 9-10, 1966.)

Boulding, Kenneth E. "General Systems as a Point of View" *Views on General Systems Theory*. Mihajlo D. Mesarovic (ed.) New York: John Wiley & Sons, Inc., 1964

Canfield, Albert A. "Instructional Systems Development" *Educational Screen and Audiovisual Guide, June 1965*.

Canfield, Albert A., "A Rationale for Performance Objectives," *Audiovisual Instruction*, Vol. 13 (Feb. 1968) pp. 127-29.

Carter, Launor and Harry Silberman. *The Systems Approach, Technology and the School*. U. S. Dept. of Commerce, Institute for Applied Technology. 1965

Chapanis, A. "On Some Relations Between Human Engineering, Operations Research, and Systems Engineering" *Systems: Research and Design*. Donald P. Eckman (ed.) New York: John Wiley & Sons, Inc., 1961

Churchman, C. West. "An Approach to General Systems Theory" *Views on General Systems Theory*. Mihajlo D. Mesarovic (ed.) New York: John Wiley & Sons, Inc. 1964

Churchman, E. West. "On the Design of Educational Systems," *Audiovisual Instruction*, 10:361-64 (May, 1965)

Cogswell, John F. *The System Approach as a Heuristic Method in Educational Development - Application to the Counseling Function*. SP-720. Santa Monica: System Development Corp., March, 1962

Cogswell, John F. and others. *Analysis of Instructional Systems*. Final Report. Santa Monica; System Development Corp., 1966

Corrigan, Robert E. *Developing and Validating Instructional Materials Through the Instructional System Approach*. A paper presented at The National Conference on Systems Approaches to Curriculum and Instruction in the Open Door College. Los Angeles: Univ. of Calif. July 18-20, 1966. Anaheim: Litton Instructional Materials, Inc.

Corrigan, Robert E. and Roger A. Kaufman. Why System Engineering. Palo Alto, California: Fearon Publishers, 1965.

Cottingham, Harold F., "National Level Projection for Elementary School Guidance." Personnel Guidance Journal 44 (Jan. 1966) pp. 499-502

Davis, Robert H. and Richard A. Behan. "Evaluating System Performance in Simulated Environments" Psychological Principles in System Development. Robert M. Gagne (ed.) New York: Holt, Rinehart and Winston, 1966. pp. 477-516

Davis, Robert. "The Systems Concept in Education" Educational Technology. Vol. VII, No. 15, p.3. Aug., 1967

Department of Defense, Office of Education and Nsia. Education Systems for Education and Training. Proceedings of Conference on above, 14-15 June, 1966. Twin Bridges Motel, Arlington, Virginia.

Eckman, Donald P. (ed.) Systems: Research and Design. Proceedings of the First Systems Symposium at Case Institute of Technology. New York: John Wiley & Sons, Inc. 1961

Eghert, R. L. and T. F. Cogswell. Systems Design for a Continuous Progress School: Parts I & II. Santa Monica: Systems Development Corp. 1964

Ellis, David O. and Fred J. Ludwig. Systems Philosophy. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1962.

Gagne, R. M. The Conditions of Learning. New York: Holt, Rinehart & Winston, 1965

Gagne, Robert M. "Curriculum Research and the Promotion of Learning" Perspectives of Curriculum Evaluation. B. Othanel Smith (ed.) Chicago: Rand McNally & Co., 1967. pp. 19-38

Gagne, Robert M. "Educational Objectives and Human Performance" Learning and the Educational Process. J. D. Krumboltz (ed.) Chicago: Rand McNally & Co., 1965. pp. 1-24

Gagne, Robert M. (ed.) Psychological Principles in System Development. New York: Holt, Rinehart & Winston, 1966

Glaser, Robert. "Psychological Bases for Instructional Design" AV Communication Review, Vol. 14, No. 4. Winter 1966. pp. 433-449.

Glaser, Robert. "Toward the New Pedagogy" Educational Technology. Spring, 1967

Goldberg, Albert L., "First Steps in the Systems Approach" Audiovisual Instruction. 10(May, 1965) pp. 382-86.

Hall, A. D. and R. E. Fagen. "Definition of a System" General Systems, Vol. 1, 1956

Hitch, C. H. "On the Choice of Objectives in Systems Studies" Systems: Research and Design. Donald P. Eckman (ed.) New York: John Wiley & Sons, Inc., 1961

Jackson, Philip W. and Elizabeth Belford. "Educational Objectives and the Joys Teaching", The School Review B (Autumn 1965) pp. 267-91.

Katz, Lilian C., Donald L. Peters, and Nancy S. Stein, "Observing Behavior in Kindergarten and Preschool Classes," Childhood Education, 44(Feb. 61) pp. 400-405.

Kennedy, John L. "Psychology and System Development" Psychological Principles in System Development. Robert M. Gagne (ed.) New York: Holt, Rinehart & Winston, 1966. pp. 13-34.

Kershaw, Joseph A. and Roland N. McKean. Systems Analysis and Education. Santa Monica, Calif: Rand Corp., 1959

Kepstein, Felix F. The Systems Approach to Education: An Introduction. Educational Testing Service, 1966.

Krumboltz, John D. "Behavioral Counseling: Rationale and Research," Personnel and Guidance Journal 44 (Dec. 1965) pp. 383-87

Lave, R. E. and D. W. Kyle. "Systems Analysis in Education Planning," Comparative Education Review XII No. 1 (Feb. 1968) pp. 39-56

Lehmann, Henry. 8 Steps in the Design of an Education and Training System. U. S. Army (Task Group on the Systems Approach to Education and Training Project Aristotle) 1967.

Lehmann, Henry. "The Systems Approach to Education," Audiovisual Instruction. 13 (Feb. 1968)

Loughary, John W., Friesen, Delos and Robert Hurst. "Autocoun: A Computer-Based Automated Counseling Simulation System," Personnel and Guidance Journal. 45 (Sept. 1966) pp. 6-15.

Maccia, George S. An Educational Theory Model: General Systems Theory. Bureau of Educational Research and Service. Occasional Paper 62-126. Columbus: Ohio State University. December, 1962

Mager, Robert F. Preparing Instructional Objectives. Palo Alto: Fearon. 1962

Magoon, Thomas. "Innovations in Counseling." Journal of Counseling. (Winter, 1964) pp. 342-47

Mauch, James. "A Systems Analysis Approach to Education" Phi Delta Kappan. 43:158-162. June 1962

McCreery, William H. and Gerald Miller, "Elementary School Counselors in California," Personnel and Guidance Journal 44 (Jan. 1966) pp. 494-98.

Meals, Donald W. "Heuristic Models for Systems Planning" Phi Delta Kappan. Vol. XLVIII, No. 5, (Jan. 1967) pp. 199-203.

Mesarovic, Mihajlo D. (ed.) View on General Systems Theory. New York: John Wiley & Sons, Inc. 1964

Mood, Alexander M. and David S. Stoller, "USOE is Knee-Deep in Operations Analysis," Nations Schools 80, p. 74-77.

Optner, Standord L. Systems Analysis. Englewood, New Jersey: Prentice-Hall, Inc. 1964

O'Toole, John F., Jr. Systems Analysis and Decision-Making in Education. Santa Monica, Calif: System Development Corp. 1965.

Oxhandler, Eugene K. New Systems for Education Suggested by Operations Research. (Paper delivered at Educational Communications Convocation. New York City, Nov. 25, 1964) Center for Instructional Communications, The Newhouse Communications Center, Syracuse, University.

Rapoport, A. "In Search of Quantifiable Parameters of Group Performance" Systems: Research and Design. Donald P. Eckman (ed.) New York: John Wiley & Sons, Inc. 1961.

Ryan, T. Antoinette and John D. Krumboltz, "Effect of Planned Reinforcement Counseling," Journal of Counseling (Winter, 1964) pp. 315-23.

Ryans, David G. An Information-Systems Approach to the Theory of Instruction with Special Reference to the Teacher, Santa Monica, Calif.: Systems Development Corp. 1963

Schure, Alexander, "Educational Escalation through Systems Analysis," Audiovisual Instructor 10 (May, 1965) pp. 371-77.

Silvern, Leonard. Systems Engineering in the Educational Environment. Hawthorne, California: Northrop Corp. 1963

Silvern, Leonard. Systems Analysis and Synthesis in Training and Education. Los Angeles: Education and Training Consultants. 1965

Smith, Karl U. and Margaret F. Smith. Cybernetic Principles of Learning and Educational Design. New York: Holt, Rinehart, and Winston. 1966.

Smith, Robert G., Jr. The Design of Instructional Systems. Technical Report 66-18. November 1966. HumRRO. The George Washington University. Human Resources Research Office. (Dept. of the Army).

Smith, Robert G., Jr. The Development of Training Objectives. Research Bulletin 11. June 1964. HumRRO. The George Washington University. Human Resources Research Office. (Dept. of the Army) 1966.

Stewart, Donald K. "The Articulated Instructional Media Program at the University of Wisconsin," Audiovisual Instructor 10 (May 1965) 380-82.

Stewart, Donald K. A Learning Systems Concept as Applied to Courses in Education and Training. (Pamphlet) College Station, Texas: Center for Creative Application of Technology to Education. 1964

Tyler, Ralph W. "Some Persistent Questions on the Defining of Objectives" Defining Educational Objectives. C. M. Lindvall (ed.) Pittsburgh: University of Pittsburgh Press. 1964.

Weelberg, P. Desmond. Constructing Behavioral Objectives. College Park, Md.: Center for Educational Technology, Univ. of Maryland, 1968.

Working Group, Wood's Hole Conference on Education. The Systems Approach to the Improvement of Education. 1959 (Unpublished paper)

Wright, George D. A General Procedure for Systems Study. WADD Technical Note No. 60-18, Wright Air Development Division, Air Research and Development Command, Wright-Patterson AFB, Ohio, January, 1960.

APPENDIX B

As a result of a series of meetings among district guidance personnel, kindergarten teachers and a consultant competent in the area of systems approach, twelve (12) learning tasks were identified. These learning tasks dealt with a necessary attitudinal state that one has in order that his predisposition to learning is not hampered. That is to say, children should have a feeling of relative comfort within a classroom setting in order that they can learn optimally various learning tasks presented to them.

These twelve (12) learning tasks become the basis upon which an analysis of functions emerge and which become part of the development of a parent subsystem. Parents in developing their subsystem will be asked to participate in "planning sessions" based upon a discussion of the behavior of their kindergarten child. Each parent will be asked to identify his behavior expectancy in relation to each learning task and what he plans to do behaviorally to help his child attain these behavior expectancies during a short period of time. Subsequently, the parent group will meet with guidance and teaching personnel in order to assess the success of their children in meeting learning tasks.

Feeling Comfortable

A. Child and Teacher--The Child Learns that:

1. He can come to the teacher for help.
2. Teacher is there to protect him (surrogate mother)
3. The teacher is a friend--basic trust of an adult
4. When he speaks to the teachers, she will listen to him
5. He will respond to teacher's cues and limits

B. Child and Peers--The Child Learns:

1. To listen when other children talk
2. That when he speaks, other children will listen
3. To take his turn in group discussion or interaction in a formal or informal situation
4. To listen and respect points of view from other children
5. He learns the give and take of other children's criticism
6. He learns that standards or rules for one are for all; that he is part of the group

7. Group approval and disapproval (group sentiment) give more awareness and sensitivity to the feelings of the group in which he is participating

APPENDIX C

CURRICULUM DOMAIN: SELECTIVE LISTENING

NEED:

Children, as they develop, need to be able to: (1) listen with competence in structured settings, (2) listen with competence under various disruptive circumstances (work, noise, parent visitations, etc.) and, (3) listen with competence over a sustained period of time.

GENERAL OBJECTIVE

Given a verbal or non-verbal stimulus the learner will respond with competence to the stimulus, in a predetermined way. Response variations are: (1) oral, (2) graphic, or (3) psychomotor. Accurate responses are expected. Circumstances revolve around classroom settings.

TERMINAL OBJECTIVE #1

Given an oral, graphic, or psychomotor stimulus, the learner will visibly focus upon the source of the stimulus. He will follow directions given by the source four times out of five, and in sequence when indicated and can miss only one item in a sequence of five. He will become discriminatory even under specifically introduced disruptive circumstances in the classroom. The learner will be expected to increase his attention span in comparison to his initial span. He is allowed to miss only one information out of four.

The learner will reconstruct sequential order without assistance four times out of five. He will complete a given sequential arrangement within a 60 second period consisting of five-ten sequence units. He will be able to exhibit this mastery either in a group of peers or in the presence of a person familiar to him.

Sub-Objective #1: To demonstrate ability to arrange concrete materials in sequential order

One of a group of 8 children, the learner will be shown, in random order, a set of concrete materials. The teacher will make a model of a sequenced order of concrete materials. The learner will be asked to place materials in a sequenced order similiar to the pattern of the teacher's model without teacher assistance within a stated time period.

Sub-Objective #2: Focusing attention on the source of information

One of a group of 8 children, the learner will be shown, in random order, a set of six pictures representing events in a familiar story. The learner will listen to the first distinct and logical part of the story and select, with help if necessary, the appropriate picture from the set. The learner will listen to the remaining parts of the story and will select at the end of each part, the correct pictures. He will be given as much help as necessary. The learner will be shown the set of six pictures in random order for the second time. He will hear the story again, and will select, without guidance, the appropriate picture from the set that matches each distinct and logical part of the story. The correct selection of 5 out of 6 pictures is the minimum expected level of accuracy.

Sub-Objective #3: Listening discriminately under multiple, disruptive stimuli

In a classroom setting, with regular work being performed, the learner will listen to an unfamiliar story. The learner will arrange a set of six pictures, each representing a section of the story, in appropriate sequential order within a 60-second time period, with no assistance. Self-correction, when necessary will be accepted. The learner will select 5 out of 6 pictures as a minimum expected level of accuracy.

Sub-Objective #4: To follow directions, when necessary, in sequence

In a group of 6-8 children, or in a tutorial setting, having heard a series of three commissions, the learner will perform these commissions without teacher assistance, and within a 60 second time period. The learner will follow the directions in the same sequence as the series presented, without errors. Self-corrections will be accepted at each attempt.

Sub-Objective #5: Increasing attention span

One of a group of 8 children, the learner will listen to a series of 4 unfamiliar stories at a listening post for a 40-minute period of time. The learner will be allowed to leave the listening post any time he wishes. He will answer 4 questions per story constructed to assess comprehension. The questions will, sequentially, progress from the obvious to the inferred. The learner will demonstrate his ability to increase his attention span by answering 3 out of 4 questions in each of the 4 stories, and the learner will listen to a minimum of 3 stories.

LEARNING TASKS

I. Primary Sets of Learning Tasks

SET A. Prerequisite Skills for Listening and Responding. The child learns:

1. To hear
2. To see
3. To be aware of verbal and non-verbal clues which indicate to him that he needs to listen to a source
4. To have mental ability commensurate to the demands of learning tasks proposed
5. To demonstrate a knowledge of left-right progression

SET B. Selective Listening Skills and Responding. The child learns:

1. To focus on the source
2. To follow directions; when necessary, in sequence
3. To listen under disruptive circumstances and to become discriminatory among multiple stimuli in the classroom
4. To increase his attention span
5. To pay attention to significant aspects of information

II. Coacting and Complementary Sets of Tasks

SET A. The Child in Relationship to His Teacher. The child learns that:

1. There are activities related to listening in which he is expected to participate

2. He can feel comfortable in the presence of his teacher, for the teacher is there as a friend

3. He will be stimulated into participation through verbal and non-verbal cues by the teacher

4. He gains positive reinforcement when he does what is expected of him

5. He gains approval following the teacher's behavioral models

6. He can come to the significant adult for help

SET B. The Child in Relationship to His Peers. The child learns that:

1. To adhere to behavioral constraints--such as not jumping around, shouting or not paying attention

2. To develop a respect for another child's turn to perform and to participate when it is his turn

3. That his peers can be helpful

SET C. The Child and Self. The child learns:

1. To respond with immediacy

2. The child learns to involve himself confidently and responsively

3. To develop a positive attitude toward listening and that he can become interested in things he has not previously experienced.

III. Coacting and Free Variational Learning Tasks

SET A. The Child Will Learn:

1. To recall stories he has heard

2. To answer questions relevant to stories he has heard

3. To retell content of what he has heard

CONTENT UNIT A: Demonstrating Ability to Arrange Concrete Materials in Sequential Order

(Relevant to Sub-Objective #1)

I. Primary Sets of Learning Tasks

SET A. Prerequisite Skills for Listening and Responding. The Child Learns:

1. To hear
2. To see
3. To be aware of verbal and non-verbal clues which indicate to him that he needs to listen to a source
4. To have mental ability commensurate to the demands of learning tasks proposed
5. To demonstrate a knowledge of left-right progression

SET B. Selective Listening Skills and Responding. The Child Learns:

1. To focus on the source

II. Coacting and Complementary Sets of Tasks

SET A. The Child in Relationship to His Teacher. The Child Learns that:

1. There are activities related to listening in which he is expected to participate
2. He can feel comfortable in the presence of his teacher, for the teacher is there as a friend
3. He will be stimulated into participation through verbal and non-verbal cues by the teacher
4. He gains positive reinforcement when he does what is expected of him
5. He gains approval following the teacher's behavioral models

6. He can come to the significant adult for help

SET B. The Child in Relationship to His Peers. The Child Learns

1. To adhere to behavioral constraints--such as not jumping around, shouting, or not paying attention

2. To develop a respect for another child's turn to perform and to participate when it is his turn

3. That his peers can be helpful

SET C. The Child and Self. The Child Learns:

1. To respond with immediacy

2. To involve himself confidently and responsively

III. Coacting and Free Variational Learning Tasks

SET A. The Child will Learn:

1. To relate and demonstrate his ability to listen in mathematics and art domains

CONTENT FOR UNIT A

Arranging in sequential order strips of varying lengths which are presented in random order.

I. Learning Experiences

A. Prerequisite input Competencies

Prerequisites are that the learner can see, can hear and can respond to verbal and non-verbal clues. The learner will have mental ability needed to understand basic learning tasks proposed.

B. The learner will be observed and discrepancies in physical and mental capabilities will be identified.

C. Provision will be made for adjustments.

II. Involving the Learner

A. One of a group of 8 children, the learner will be asked to look at a set of six strips of colored paper of varying lengths. He will listen to remarks made by the teacher about how the strips can be placed in sequenced order.

B. The learner will be asked to suggest situations when sequential order is important. He will be asked to state when left-to-right progression is important.

C. The learner will listen to the teacher review the importance of using left-to-right progression when arranging materials in a sequential order.

III. External Conditions

A. A set of six strips of colored paper will be presented on a flannelboard to the learner. The learner will be asked to look at the strips and arrange them in a sequential order.

B. The learner will listen to comments from others in the group as to the precision of the arrangement.

C. The learner will be guided, as necessary, to arrange the paper strips in order as to shortest to longest, or longest to shortest in left-to-right order.

D. The learner will observe another member of the group and make suggestions as to correctness of the sequence.

E. The learner will arrange a set of six colored paper strips in sequenced order as to shortest to longest, longest to shortest in left-to-right progression.

F. The learner will be told whether or not his paper strips are arranged in an ordered sequence.

G. This process continues until the learner can select and arrange all paper strips correctly, matching the teacher's model.

IV. Management of Learner

A. The learner will be assisted as much as necessary during the presentation of the teacher's model and then encouraged to respond independently when arranging his set of paper strips.

B. The learner will be informed, when working independently, how well his responses compare to model used during initial presentation of learning experience.

C. The learner will be informed whether or not he has arranged all six strips correctly in sequential order.

D. The learner will maintain his motivation toward the learning task.

V. Assessment

A. The learner will be expected to arrange all six strips of paper in proper sequential order during his performances within a 90" time period. Self-correction will be accepted at each attempt.

B. Discrepancies will be recorded and provisions made for additional experiences.

C. The home will be informed about the performances of the learner and recommendations will be given for giving assistance to the child at home.

D. Retest.

CONTENT UNIT B: Focusing Attention on the Source of Information

(Relevant to Sub-Objective #2)

I. Primary Sets of Learning Tasks

SET A. Prerequisite Skills for Listening and Responding: The child learns:

1. To hear
2. To see
3. To be aware of verbal and non-verbal clues which indicate to him that he needs to listen to a source

SET B. Selective Listening Skills and Responding. The child learns:

1. To focus on the source

II. Coacting and Complementary Sets of Tasks

SET A. The Child in Relationship to His Teacher. The child learns that:

1. There are activities related to listening in which he is expected to participate
2. He can feel comfortable in the presence of his teacher, for the teacher is there as a friend
3. He will be stimulated into participation through verbal and non-verbal cues by the teacher
4. He gains positive reinforcement when he does what is expected of him

5. He gains approval following the teacher's behavioral models

6. He can come to the significant adult for help

SET B. The Child in Relationship to His Peers. The child learns that:

1. To adhere to behavioral constraints--such as not jumping around, shouting, or not paying attention

2. To develop a respect for another child's turn to perform and to participate when it is his turn

SET C. The Child and Self. The child learns:

1. To develop a positive attitude toward listening and that he can become interested in things he has not previously experienced

III. Coacting and Free Variational Learning Tasks

SET A. The Child will Learn:

1. To relate and demonstrate his ability to listen in mathematics, art and literature domains

CONTENT FOR UNIT B

Listening to a short story such as "The Travels of a Fox" and analyzing which pictures graphically represent various parts of the story.

LEARNING EXPERIENCES

I. Prerequisite Input Competence

A. Prerequisite: the learner can see, can hear, can respond to verbal and non-verbal clues, can discriminate among phenomena expressed by the pictures to be used, and can demonstrate ability to do left-to-right sequencing of materials.

B. The learner will be observed and discrepancies in physical and mental capabilities will be identified.

C. Discrepancies will be corrected by additional learning experiences.

II. Involving the Learner

A. One of a group of 8 children, the learner will be asked to look at a set of six pictures, each representing a distinct and logical event in a familiar story. He will listen to remarks made by the teacher about how a picture can represent an event.

B. The learner will be asked to suggest how pictures may be arranged to tell a story.

C. The learner will listen to the teacher state that this set of pictures will be used to see how well he can keep his attention directed toward a given part of a story he has heard before.

III. External Conditions

A. A set of six pictures are presented for the attention of the learner. He is to look at the pictures and suggest which familiar story they represent.

B. The first distinct and logical part of the story is presented to the learner.

C. The learner will be guided to select the correct pictorial representation. Five remaining parts of the story are presented, and the learner will select, at the end of each part--with teacher assistance--the correct picture. He will place the pictures, one at a time and from left to right, in a cardholder.

D. Having heard the story for a second time, the learner will arrange the pictures in logical sequential order, similar to his former arrangement.

E. The learner will be told whether or not his pictures are arranged in correct sequence.

F. This process continues until the learner can select and arrange all pictures correctly.

IV. Management of Learner

A. The learner will be assisted as much as necessary during the first reading of the story, then encouraged to respond independently during the second reading.

B. The learner will be informed after his second performance how well he did as compared to his performance when being directly guided by the teacher.

C. The learner will be informed if he arranged all six pictures correctly.

D. The learner will adjust to meet individual differences.

E. The learner will be helped to maintain his motivation toward the learning task.

V. Assessment

A. The learner will be expected to arrange all six pictures in proper sequential order during both performances. Self-correction will be accepted at each attempt.

B. Discrepancies will be recorded and provisions made for additional experiences.

C. The home will be informed about the performance of the learner and recommendations will be given for giving assistance to the child at home.

D. Retest.

CONTENT UNIT C: Listening Discriminately under Multiple, Disruptive Stimuli

(Relevant to Sub-Objective #3)

I. Primary Sets of Learning Tasks

SET A. Prerequisite Skills for Listening and Responding. The child learns:

1. To hear
2. To see
3. To be aware of verbal and non-verbal clues which indicate to him that he needs to listen to a source

SET B. Selective Listening Skills and Responding. The child learns:

1. To focus on the source
2. To follow directions; when necessary, in sequence
3. To listen under disruptive circumstances and to become discriminatory among multiple stimuli in the classroom

II. Coacting and Complementary Sets of Tasks

SET A. The Child in Relationship to His Teacher. The child learns that:

1. There are activities related to listening in which he is expected to participate
2. He can feel comfortable in the presence of his teacher, for the teacher is there as a friend
3. He will be stimulated into participation through verbal and non-verbal cues by the teacher
4. He gains positive reinforcement when he does what is expected to him
5. He gains approval following the teacher's behavioral models
6. He can come to the significant adult for help

SET B. The Child in Relationship to His Peers. The child learns:

1. To adhere to behavioral constraints--such as not jumping around, shouting, or not paying attention

SET C. The Child and Self. The child learns:

1. To respond with immediacy
2. To involve himself confidently and responsively
3. To develop a positive attitude toward listening and that he can become interested in things he has not previously experienced

III. Coacting and Free Variational Learning Tasks

SET A. The Child will Learn:

1. To relate and demonstrate his ability to listen in mathematics, art and literature

CONTENT FOR UNIT C

(1) listening to an unfamiliar story such as Curious George, (2) sequentially arranging graphic representations found in that story, (3) being exposed to specific multiple disruptive circumstances such as: someone walking into the room for scheduled children or the room phone buzzing.

LEARNING EXPERIENCES

I. Prerequisite Input Competences

A. The learner will be able to demonstrate that he can focus on source, follow directions, and listen in a quiet, uninterrupted setting.

B. Observe discrepancy between prerequisite and input competency.

C. Prior learning experiences will have been provided to master prerequisite competence.

II. Involvement of Learner

A. The learner will be asked to leave the regular classroom setting and to sit with the teacher in a pre-determined location apart from the other members of the class. He will be asked to see how well he can listen with all the other noise going on.

B. The learner will be told that he will listen to a story; that careful listening will be necessary because he has not heard the story before, and it is important to listen even though there are disturbances, because the story will not be repeated. Having heard the story, he will be asked to arrange a set of six pictures in order.

C. The learner will be asked to listen with his attention focused on the story, regardless of other interruptions in the classroom.

III. External Conditions

A. The learner's attention will be returned to story and he will be asked to recall favorite stories he has heard previously.

B. The learner will listen to an unfamiliar story.

C. The learner will keep his attention focused on the story as a result of previous teacher-model conditioning. The teacher has on five previous specified circumstances, remained with her reading task (reading story through without delays) despite disruptions.

D. The learner will arrange a set of six pictures in correct sequence of story he has heard, with no assistance.

E. The learner will discuss with the teacher how many of the pictures were arranged in correct sequence.

IV. Management of Learner

A. The learner will receive guidance and direction only before and after his performance.

B. The learner will be informed of correctness of response after his performance.

C. The learner will adjust to meet individual differences.

D. The learner will be helped to maintain his motivation toward learning tasks.

V. Assessment

A. The learner will be assessed according to the following:

1. Continued focus on the story, ignoring the classroom noise

2. Listen to uninterrupted story

3. Correctness to sequence of arrangement of six pictures

4. 60-second time period for arrangement of pictures

5. Amount of assistance needed

6. Number of self-corrections

B. Discrepancies noted and recorded, and provisions made for additional learning experiences based on results.

C. The home will be informed about the performance of the learner and recommendations will be given for giving assistance to the child at home.

D. Retest

CONTENT UNIT D: Following Directions; when Necessary, in Sequence

(Relevant to Sub-Objective #4)

I. Primary Sets of Learning Tasks

SET A. Prerequisite Skills for Listening and Responding. The child learns:

1. To hear
2. To see
3. To be aware of verbal and non-verbal clues which indicate to him that he needs to listen to a source

SET B. Selective Listening Skills and Responding. The child learns:

1. To focus on the source
2. To follow directions; when necessary, in sequence

II. Coacting and Complementary Sets of Tasks

SET A. The Child in Relationship to His Teacher. The child learns that:

1. There are activities related to listening in which he is expected to participate
2. He can feel comfortable in the presence of his teacher, for the teacher is there as a friend
3. He will be stimulated into participation through verbal and non-verbal clues by the teacher
4. He gains positive reinforcement when he does what is expected of him
5. He gains approval following the teacher's behavioral models
6. He can come to the significant adult for help

SET B. The Child in Relationship to His Peers. The child learns that:

1. To adhere to behavioral constraints--such as not jumping around, shouting, or not paying attention.
2. To develop a respect for another child's turn to perform and to participate when it is his turn

SET C. The Child and Self. The child learns:

1. To respond with immediacy
2. To involve himself confidently and responsively
3. To develop a positive attitude toward listening and that he can become interested in things he has not previously experienced

III. Coacting and Free Variational Learning Tasks

SET A. The Child will Learn:

1. To relate and demonstrate his ability to listen in mathematics, art and literature domains

CONTENT FOR UNIT D

Acting out such directions as: walk to the chalkboard, find the largest piece of chalk, and write your name on the line by an x, etc.

LEARNING EXPERIENCES

I. Prerequisite Input Competencies

A. The learner can respond to verbal and non-verbal clues that direct him to focus on the source of information.

B. The learner has been observed in relation to prerequisite and discrepancies are recorded.

C. Discrepancies will be corrected by additional learning experiences.

II. Involving the Learner

A. One of a group of 6 to 8 children, the learner will listen to preparatory remarks by the source regarding the importance of listening. The learner will be asked to relate a time when he has followed directions at school, at home, or on the way to school. The learner will respond regarding how well he thinks he can remember one direction, then two, then three, one after the other.

B. The learner will be asked to suggest skills necessary to follow three directions one after the other.

C. The learner will listen to a restatement of the skills necessary to follow a series of three directions and that practicing these skills will help him to listen better.

III. External Conditions

A. The learner will be told that now he will have an opportunity to see how well he can perform three directions, one after the other, as given him.

B. The learner will listen to three directions. The learner will observe as another child in the group performs the series, with assistance from the group, if necessary.

C. The learner listens to a different series of directions. He will be asked to follow the directions in the same order as given. Series of directions presented include: Close the door, put an x on the chalkboard, and give three books to John.

D. The learner will be assisted by verbal and non-verbal clues from others, and by gaining positive reinforcement and approval after his performance.

E. Continue procedure until learner(s) succeed(s).

IV. Management of Learner

A. The learner will be given assistance throughout the learning experience. However, he will not have achieved optimum performance until he has followed three directions correctly in order, without help.

B. The learner will be informed of the conclusions of the members of the group as to how many of the series of three directions were followed in order.

C. The learner will be asked to suggest ways he can improve his ability to follow directions.

D. The learner will adjust to meet individual differences.

E. The learner will be helped to maintain his motivation toward learning tasks.

V. Assessment

A. The learner's responses will be recorded in regard to:

accuracy in following directions
following directions in sequence given
amount of assistance given
60-second length of time to perform number of self-corrections

B. Discrepancies noted and recorded, and provisions made for additional experiences based on the conclusions.

C. The home will be informed about the performance of the learner and recommendations will be given for giving assistance to the child at home.

D. Retest.

CONTENT UNIT E: Increasing Attention Span

(Relevant to Sub-Objective #5)

I. Primary Sets of Learning Tasks

SET A. Prerequisite Skills for Listening and Responding. The child learns:

1. To hear
2. To see
3. To be aware of verbal and non-verbal clues which indicate to him that he needs to listen to a source

SET B. Selective Listening Skills and Responding. The child learns:

1. To focus on the source
2. To follow directions; when necessary, in sequence
3. To listen under disruptive circumstances and to become discriminatory among multiple stimuli in the classroom
4. To increase his attention span

II. Coacting and Complementary Sets of Tasks

SET A. The Child in Relationship to His Teacher. The child learns that:

1. There are activities related to listening in which he is expected to participate
2. He gains positive reinforcement when he does what is expected of him
3. He can come to the significant adult for help

SET B. The Child in Relationship to His Peers. The child learns:

1. To adhere to behavioral constraints--such as not jumping around, shouting, or not paying attention

SET C. The Child and Self. The child learns:

1. To respond with immediacy

III. Coacting and Free Variational Learning Tasks

SET A. The Child will Learn:

1. To relate and demonstrate his ability to listen in mathematics, art, and literature domains

CONTENT FOR UNIT E

Listening to stories presented which will include: (1) Caps for Sale (2) Little Toot (3) The Biggest Bear, and (4) Andy and the Lion for a minimum 20 minutes and a total time of 40 minutes and answering questions which include: (1) "What is the title of the story (or stories) heard?" (2) "How did the monkey's attention get directed toward the caps in the first place?" (3) "What was the lesson taught or inferred by the story?" (4) "What is he going to do now?" (logical extension inferred from the story.) Responses given by children will reflect convergent expectancies made by authors. For example, in response to question #2 the answer should imply, "He should have gone his own way and minded his business."

LEARNING EXPERIENCES

I. Prerequisite Input Competencies

A. The learner will demonstrate that he can focus on the source of sound heard, by remaining at the listening area for a longer period of time than at previous sittings. The learner's listening span will be recorded in number of minutes.

B. Amount of time of prior performance will be compared to amount of time spent on this performance.

II. Involvement of the Learner

A. One of a group of 6-8 children, the learner will be asked to suggest ways a listening post can improve his ability to listen.

B. The learner will be told that four stories, which he has not heard before, will be presented at a listening post. He will be led to conclude that four stories are more than are usually presented at one sitting.

C. The learner will be told that he will use the listening post and will be asked questions afterward, to check on how much he has listened to. The learner will be led to understand that the longer he listens, the more questions he will be able to answer. He will be assured that he may leave the listening area at any time he wishes.

III. External Conditions

A. The learner will begin listening to a series of four stories at a listening post.

B. Learner will continue to listen for a longer time than before. The learner's previous attention span will serve as a model for this performance.

C. The learner will be allowed to leave listening area when he considers his listening time ended.

D. The learner's listening time will be recorded.

E. The learner will be asked to answer comprehensive questions in relation to the amount of story content he has listened to.

IV. Management of Learner

A. Number of questions answered and the number of correct responses to questions are recorded.

B. The learner will be informed of correctness of response after his performance.

C. The learner will adjust to meet individual differences.

D. The learner will be helped to maintain his motivation toward learning tasks.

V. Assessment

A. The learner will be observed and responses recorded in relation to the following:

   1. Number of minutes of previous listening time

   2. Number of minutes of present listening time

   3. Number of questions answered

   4. Number of correct responses to questions

B. Discrepancies will be observed and recorded, and provisions made for additional learning experiences based on discrepancies.

C. The home will be informed about the performance of the learner and recommendations will be given for giving assistance to the child at home.

D. Retest.

CURRICULUM DOMAIN: ORAL COMMUNICATION

NEED:

Develop mentally, children need to be able to: (1) verbalize in more formal and structured settings, (2) provide complete units of expression, and (3) use consistently correct grammar and appropriate vocabulary.

GENERAL OBJECTIVE:

Given a verbal (or non-verbal) stimulus, the learner will respond to the stimulus by providing oral description(s) or discussion(s) relevant to the stimulus. Both correct use of language and accuracy of content will be required. The circumstances will be the classroom setting.

TERMINAL OBJECTIVE #1: DESCRIBE OBJECTS SEEN

Given five different, but familiar objects in sequence, the learner will describe orally the size, shape, color, texture, and weight of the objects. The learner, describing the objects, will denote at least four of the five categories as stated above, in 4-5 phrases or sentences. More than 3 of the sentences will be complete, and constructed with the correct use of grammar. The order of listing the descriptive categories is optional. The terms used in describing the object will be correct in two out of three instances. Assistance will be freely given in case of error or prolonged -- longer than 5 seconds--hesitancy.

The child will be able to exhibit this performance either while in a group of peers and in the presence of a familiar adult or adolescent, or in the company of the latter only.

The child's presentation should not take longer than 90 seconds when he begins his description.

IMTERMEDIATE OBJECTIVES: (Given in an obligatory sequence)

Sub-Objective #1: Non-verbal Communication

One of a group of 7-8 children, the learner will listen to the teacher's description of objects, such as a sheet of sandpaper, a piece of velvet cloth, a bag of sand, etc. The learner will watch the performance of the teacher with an interested expression, and with maintaining eye contact with the teacher and objects. The learner will respond to questions referring to the size, shape, color, texture, and weight of the objects by nodding his head and touching the correct object as appropriate. His non-verbal responses will be correct four times out of five, and (his) eye contact will be demonstrated in 9 out of 10 (response) instances. Self-correction is accepted one out of four cases.

Sub-Objective #2: One Word Responses

In a tutorial setting, having been shown a set of different (familiar) objects, and in response to questions inquiring about the size, shape, color, texture, and weight of these objects, the learner will answer with one word. He will be correct four out of five times. Response time to a question is not longer than 6 seconds. Self-correction is acceptable one out of four cases.

Sub-Objective #3: Restatement of Descriptive Utterances

In a small group setting, having heard a description of the size, shape, color, texture, and weight of visually demonstrated objects, the learner will--following the demonstration and description of a unit--be able to restate or repeat each description with the use phrases and/or sentences, and will correctly describe at least four of the five characteristics given. Order of description is optional. A hesitancy time of 5 seconds is acceptable. Self-correction is accepted in one out of three trials.

Sub-Objective #4: Self-generated Descriptive Statements

In a tutorial setting, given a specific familiar object, the learner will describe orally the size, shape, color, texture, and weight of the object. In his description he will denote at least four of the five characteristics given above, using 4-5 sentences. At least 3 of the sentences will be complete with the correct use of grammar. The order of the description of characteristics is optional. The terms used to denote characteristics should be correct 2 out of 3. Assistance can be given in case of error or prolonged (more than 5 seconds) hesitancy.

LEARNING TASKS

I. Primary Sets of Learning Tasks

SET A. Selective Listening Skills and Responding. The child learns:

1. To focus on the source
2. To follow directions; when necessary, in sequence
3. To listen under disruptive circumstances and to become discriminatory among multiple stimuli in the classroom

4. To increase his attention span

5. To pay attention to significant aspects of information

SET B. Oral Communication Skills. The child learns to respond:

1. Non-verbally (eye contact, nodding, etc.)

2. Using one word answers such as yes, no, and single noun word answers.

3. By using phrases

4. By using complete sentences

5. By using adequate and appropriate vocabulary

6. By using correct grammar

7. By using connected sentences

8. By using adequate pronunciation, enunciation, and fluency

II. Coacting and Complementary Sets of Tasks

SET A: The Child and Teacher Relationships. The child learns that:

1. He can feel comfortable verbalizing in the presence of his teacher

2. He will gain approval following the teacher's model of language usage

3. There are activities related to verbalization in which he is expected to participate

4. He gains positive reinforcement when he does what is expected of him

5. He will be stimulated into verbal participation through verbal and non-verbal cues by the teacher

6. He will be discouraged from irrelevant and excessive verbalization through verbal and non-verbal cues by the teacher

SET B: The Child and His Peers Relationships. The child learns:

1. To adhere to behavioral constraints while participating in a group discussion for a reasonable period of time he will, for example, not jump around, or shout

2. To develop a respect for another child's turn to talk and to participate (not usurping someone esle's turn). Also, he is expected to participate when it is his turn.

3. That when he speaks, other children will listen

4. To take his turn in group discussion or interaction in a formal or informal situation

SET C. The Child and Self:

1. The child learns to involve himself confidently and responsively

III. Coacting and Free Variational Learning Tasks

SET A. The child will learn:

1. To recognize and name a set of non-household type of objects selected from natural science and physical science domains

2. To label physical characteristics of objects

CONTENT UNIT A: Developing Non-verbal Communication

(Relevant to Sub-Objective #1)

I. Primary Sets of Learning Tasks

SET A. Selective Listening Skills and Responding. The Child Learns:

1. To focus on the source

2. To follow directions; when necessary, in sequence

SET B. Oral Communication Skills. The child learns to respond:

1. Non-verbally (eye contact, nodding, etc.)

II. Coacting and Complementary Sets of Tasks

SET A: The Child and Teacher Relationships. The child learns that

1. He can feel comfortable verbalizing in the presence of his teacher

2. He will gain approval following the teacher's model of language usage

3. There are activities related to verbalization in which he is expected to participate

4. He gains positive reinforcement when he does what is expected of him

SET B. The Child and His Peer Relationships. The child learns:

1. To adhere to behavioral constraints while participating in a group discussion for a reasonable period of time--he will, for example not jump around or shout

2. To develop a respect for another child's turn to talk and to participate (not usurping someone else's turn). Also, he is expected to participate when it is his turn

4. To take his turn in group discussion or interaction in a formal or informal situation

SET C. The Child and Self. The Child Learns:

1. To involve himself confidently and responsively

III. Coacting and Free Variational Learning Tasks

SET A. The Child will Learn:

1. To recognize and name a set of non-household type of objects selected from natural science and physical science domains

CONTENT FOR UNIT A

Communicating non-verbal responses, maintain eye contact, nod head, present an interested facial expression, and identify given objects by touching or by other means.

EARNING EXPERIENCES

I. Prerequisite Input Competencies

A. The learner has learned that the teacher is his friend, will listen to him and will accept any response. He has learned to focus on the source of information.

B. The learner will be observed and any discrepancies between prerequisites and input competency will be identified.

C. The learner will have learned prerequisites prior to learning experience.

II. Involving the Learner

A. One of a group of 10-12 children, the learner will be asked to look at a display of 5 non-household type objects selected from natural or physical domains. The learner will listen to introductory remarks made by the teacher, designed to call attention to the display.

B. The learner will listen to a person state that this is a set of objects, and that the objects will be used to see how well each learner can follow directions, keep his listening attention on what is happening for the entire time of the lesson, and can take turns using the objects on display.

C. The learner will be asked to suggest ways he might answer questions without words. He will listen to the teacher re-state expressed ideas that are pertinent to the objects, and add other expressions of non-verbal communication.

III. External Conditions

A. The learner's attention will be recalled to the display of objects.

B. The learner will listen to the teacher's description of the selected objects as to size, shape, color, texture and weight.

C. The learner will be given information about how he is to respond and observes the teacher make one of the following responses:

1. Nodding head
2. Touching the correct object
3. Holding up the correct object

D. The learner will demonstrate expected behavior.

E. The learner will be asked to respond in his own turn to questions about the size, shape, color, texture, and weight of objects by giving one of the pre-determined responses, similar to the teacher's model. The learner will be asked to observe while others respond. He will be assured that his responses will be accepted, and that he can correct his mistakes, if necessary.

F. Continue procedure with others in group.

IV. Management of Learner

A. The learner will be guided and directed throughout the learning experience.

B. Adjustments will be introduced in the learning experiences in order to provide for individual differences, and to meet the specific needs of the learner.

C. The learner will be informed of correctness or incorrectness of response, and how well his response compared with the model.

D. The motivation of the learner will be maintained.

V. Assessment

A. The learner will be checked against the following:

Sub-Objective #1

Responses correct: 4 out of 5
Eye contact : 9 out of 10
Self-correction : 1 out of 4

B. Discrepancies noted and recorded, and provisions made for additional experiences based upon the corrections.

C. Home informed about the performance of the learner, and recommendations will be given for giving assistance to the child at home.

D. Retest.

CONTENT UNIT B: Making one word responses

(Relevant to Sub-Objective #2)

I. Primary Sets of Learning Tasks

SET A. Selective Listening Skills and Responding. The Child Learns:

1. To focus on the source
2. To follow directions; when necessary, in sequence
3. To increase his attention span
4. To pay attention to significant aspects of information

SET B. Oral Communication Skills. The Child Learns to Respond:

1. Non-verbally (eye contact, nodding, etc.)
2. Using one word answers such as yes, no, and single noun word answers

II. Coacting and Complementary Sets of Tasks

SET A. The Child and Teacher Relationships. The Child Learns that:

1. He can feel comfortable verbalizing in the presence of his teacher
2. He will gain approval following the teacher's model of language usage
3. There are activities related to verbalization in which he is expected to participate
4. He gains positive reinforcement when he does what is expected of him
5. He will be stimulated into verbal participation through verbal and non-verbal cues by the teacher
6. He will be discouraged from irrelevant and excessive verbalization through verbal and non-verbal cues by the teacher

SET B. The Child and His Peer Relationships. The Child Learns:

1. To adhere to behavioral constraints while participating in a group discussion for a reasonable period of time--he will not, for example, jump around or shout.
2. To develop a respect for another child's turn to talk and to participate (not usurping someone else's turn). Also, he is expected to participate when it is his turn.
3. That when he speaks, other children will listen

4. To take his turn in group discussion or interaction in a formal or informal situation

SET C. The Child and Self:

1. The child learns to involve himself confidently and responsively

III. Coacting and Free Variational Learning Tasks

SET A. The Child will Learn:

1. To recognize and name a set of non-household type objects selected from natural science and physical science domains

2. To label physical characteristics of objects

CONTENT FOR UNIT B

Describing in one word characteristics of size, shape, color, texture and weight of a given object will be presented. The models introduced in the classroom will include:

large, small, medium
round, square, oblong
blue, red, green
soft, hard, rough
heavy, light

LEARNING EXPERIENCES

I. Prerequisite Input Competence

A. The learner has learned that the teacher is his friend, will listen to him, and accept any behavioral response.
The learner has learned to focus on the source of information.
The learner has learned to communicate non-verbally.
The learner has learned that a word is a spoken utterance; it can denote positive or negative thought, or name an object.

B. The learner will be observed and any discrepancies between prerequisites and input competency will be identified.

C. The learner has attained prerequisites by additional learning experiences.

II. Involving the Learner

A. The learner will be asked to look at a large paper sack, and to observe as 5 non-household objects, selected from natural and physical science domains are taken from the sack and placed on a table.

B. The learner will be told that these objects will be used to help improve his ability to follow directions, to keep his attention on the lesson for a longer length of time, and to listen more carefully to answers from others in the group.

C. The learner will be told that he will be asked several questions about the objects on display which can be answered with only one word. He will be asked to state or suggest words that represent only one idea about an object, either relevant or irrelevant to the unit.

III. External Conditions

A. The learner's attention will be returned to objects on display.

B. The learner will listen to the teacher ask questions about the objects in relation to size, shape, color, texture and weight.

C. The learner listens to teacher answer each question by using only one word.
The words will include:
large, small, medium
round, square, oblong
blue, red, green
soft, hard, rough
heavy, light

D. The learner will be instructed that now he is expected to make the same responses. He is told that he may have his turn, but he must allow others to do the same. The learner's responses are accepted and allowance is made for self-correction, if necessary.

E. Practice.

IV. Management of Learner

A. The learner will be guided and directed throughout the learning experience.

B. The learner will be informed of correctness or incorrectness of response, and how well his response compared with the model.

C. Adjustments will be introduced in the learning experiences in order to provide for individual differences, and to meet the specific needs of the learner.

D. The motivation of the learner will be maintained.

V. Assessment

A. The learner will be checked against the following:

Sub-Objective #2

Responses correct: 4 out of 5
Time spent : 6 sec.
Self-corrections : 1 out of 5

B. Discrepancies noted and recorded, and provisions made for additional experiences based upon the corrections.

C. Home to be informed about the learner's performance. Give recommendations as to how to assist the child at home.

D. Retest.

CONTENT UNIT C: Re-stating Descriptive Utterances

(Relevant to Sub-Objective #3)

I. Primary Sets of Learning Tasks

SET A. Selective Listening Skills and Responding. The Child Learns:

1. To focus on the source

2. To follow directions; when necessary, in sequence

3. To pay attention to significant aspects of information

SET B. Oral Communication Skills. The Child Learns to Respond:

1. Non-verbally (eye contact, nodding, etc.)

2. Using one word answers such as yes, no, and single noun word answers

3. By using phrases

II. Coacting and Complementary Sets of Tasks

SET A. The Child and Teacher Relationships. The Child Learns that:

1. He can feel comfortable verbalizing in the presence of his teacher
2. He will gain approval following the teacher's model of language usage
3. There are activities related to verbalization in which he is expected to participate
4. He gains positive reinforcement when he does what is expected of him
5. He will be stimulated into verbal participation through verbal and non-verbal cues by the teacher
6. He will be discouraged from irrelevant and excessive verbalization through verbal and non-verbal cues by the teacher.

SET B. The Child and His Peer Relationships. The Child Learns:

1. To adhere to behavioral constraints while participating in a group discussion for a reasonable period of time--he will, for example, not jump around, or shout.
2. To develop a respect for another child's turn to talk and to participate (not usurping someone else's turn). Also, he is expected to participate when it is his turn.
3. That when he speaks, other children will listen
4. To take his turn in group discussion or interaction in a formal or informal situation

SET C. The Child and Self:

1. The child learns to involve himself confidently and responsively

III. Coacting and Free Variational Learning Tasks

SET A. The Child will Learn:

1. To recognize and name a set of non-household objects selected from natural science and physical science domains

2. To label physical characteristics of objects

CONTENT FOR UNIT C

Describing characteristics of an object by using appropriate phases and/or sentences will be given. Some content examples are: "plastic ball", "light plastic ball", or "It is a light plastic ball", "It is round".

LEARNING EXPERIENCES

I. Prerequisite Input Competencies

A. The learner has learned that the teacher is his friend, will listen to him, and accept any response.
The learner has learned to focus his attention on the source of information.
The learner has learned to respond non-verbally and by using one word, including yes, no, or noun in answering questions.
The learner has learned the general meaning of "phrase" and "sentence", and that these can be used to tell ideas to others.

B. The learner will be observed and any discrepancies between prerequisite and input competency will be identified.

C. The learner will have mastered prerequisite competencies prior to learning experience.

II. Involving the Learner

A. One learner, from a group of 10-12 children, will be asked to take from a box, a set of 5 objects selected from physical and natural science domains. The learner will place the objects on a table in front of group.

B. The learner will be told that these objects can be used to increase his ability to listen more attentively for a longer period of time, to be able to follow the teacher's model of response, and to discuss an idea with others in a group.

C. The learner will be asked to review terms including: phrase, sentence, describe.

III. External Conditions

A. The learner will be asked to observe objects for 1 minute without comment.

B. The learner will listen to the teacher give a description of one of the objects.

C. The learner will assist in a decision whether the teacher's description was an adequate and appropriate phrase or sentence.
The learner will listen as the teacher repeats phrases or sentences that best represent a model for the (objective) unit. The phrases or sentences will include: A plastic ball. It is not heavy. It is light. The ball is small. A shiny red ball.

D. The learner will be asked to give a description of a given object, using 4 or 5 phrases or sentences, and including at least 4 of the category words which describe the object. He will be given assistance when necessary.

E. Practice--Opportunity for others in group to perform.

IV. Management of Learner

A. The learner will be guided and directed throughout the learning experience.

B. The learner will be informed of correctness or incorrectness of response, and how well his response compared with the model.

C. Adjustments will be introduced in the learning experiences in order to provide for individual differences, and to meet the specific needs of the learner.

D. The motivation of the learner will be maintained.

V. Assessment

A. The learner will be checked against the following:

Sub-Objective #3

Correct responses: 4 out of 5
Time spent : 5 sec.
Self-corrections : 1 out of 3

No. of adequate phrases or sentences	4 or 5
No. of characteristics included per object	2 out of 3

B. Discrepancies noted and recorded and provisions made for additional experiences based on results.

C. The home is to be informed about the performance of the learner, and recommendations made as to how to improve performance.

D. Retest.

CONTENT UNIT D: Generating Descriptive Statements

(Relevant to Sub-Objective #4)

I. Primary Sets of Learning Tasks

SET A. Selective Listening Skills and Responding. The Child Learns:

1. To focus on the source
2. To follow directions; when necessary, in sequence
3. To listen under disruptive circumstances and to become discriminatory among multiple stimuli in the classroom
4. To increase his attention span
5. To pay attention to significant aspects of information

SET B. Oral Communication Skills. The Child Learns to Respond:

1. Non-verbally (eye contact, nodding, etc.)
2. By using one word answers such as yes, no, and single noun word answers
3. By using phrases
4. By using complete sentences

II. Coacting and Complementary Sets of Tasks

SET A. The Child and Teacher Relationships. The Child Learns that:

1. He can feel comfortable verbalizing in the presence of his teacher

2. He will gain approval following the teacher's model of language usage

3. There are activities related to verbalization in which he is expected to participate

4. He gains positive reinforcement when he does what is expected of him

5. He will be stimulated into verbal participation through verbal and non-verbal cues by the teacher

6. He will be discouraged from irrelevant and excessive verbalization through verbal and non-verbal cues by the teacher

SET B. The Child and His Peer Relationships. The Child Learns:

1. To adhere to behavioral constraints while participating in a group discussion for a reasonable period of time--he will, for example, not jump around or shout

2. To develop a respect for another child's turn to talk and to participate (not usurping someone else's turn.) Also, he is expected to participate when it is his turn

3. That when he speaks, other children will listen

4. To take his turn in group discussion or interaction in a formal or informal situation

SET C. The Child and Self. The Child Learns:

1. To involve himself confidently and responsively

III. Coacting and Free Variational Learning Tasks

SET A. The Child will Learn:

1. To recognize and name a set of non-household type objects selected from natural science and physical science domains

2. To label physical characteristics of objects

CONTENT FOR UNIT D

Describing characteristics of objects referring to the following areas: (1) size (2) shape (3) color (4) texture and (5) weight. The models introduced in the classroom will include: "This is large", "Red plastic ball", "That is not heavy". "This is a round ball". "It is smooth".

LEARNING EXPERIENCES

I. Prerequisite Input Competence

A. The learner has learned that the teacher is his friend, will listen to him, and accept any response.
The learner has learned to focus his attention on the source of information.
The learner has learned to respond non-verbally and by using one word, including yes, no, or noun, in answering questions.
The learner has learned the general meaning of "sentence", and that these can be used to tell ideas to others.
The learner will be able to respond independently as a result of previous learning experiences.

B. The learner will be observed and any discrepancies between prerequisite and input competency will be identified.

C. The learner will have mastered the prerequisites prior to learning experience.

II. Involving the Learner

A. Each child in a group of 6-8 will be asked to take from a closed box an unusual object, one which is likely to be unfamiliar to him, which reflects each of the categories listed.

B. The learner will be told that he has his own object which he must describe in complete sentences and which cover all categories listed--size, shape, color, texture and weight.

C. The learner will be shown by example utterances that illustrate clear communication involving the use of complete thoughts stated in sentences. These illustrations will include incomplete and complete thoughts.

III. External Conditions

A. The learner will be asked to observe his object for 30 seconds without comment.

B. The learner will be expected to test this expectation, and to carry over previously learned experiences which have led him to understand what type of description is needed for his object.

C. The teacher will make 5 statements, 3 of which will be complete thoughts expressed in a sentence. The children will recognize the difference between complete and incomplete thoughts through the use of this model, and be ready to proceed toward meeting their objective.

These statements will be:

1. This is a flag of our country.
2. the red and white flag
3. The lazy brown cow jumped over the red fox.
4. We are walking to school.
5. go to school

D. The learner will be asked to give a description of a given object using 4 or 5 sentences, and including at least 4 of the category words which describe the objects.

E. The learner will evidence a transfer of learning based upon the past learning experiences which have been logically structured to prepare learner to meet his optimum objectives.

IV. Management of The Learner

A. The learner will be guided and directed throughout the learning experience.

B. The learner will be informed of correctness or incorrectness of response, and how well his response compared with the model.

C. Adjustments will be made in the learning sequences in order to provide for individual differences and to satisfy the needs of the learner.

D. The motivation of the learner will be maintained.

V. Assessment

A. The learner will be checked against the following:

Sub-Objective #4

Correct responses : 4 out of 5
Time spent : 5 sec.
Self-corrections : 1 out of 3
No. of adequate sentences: 4 or 5
No. of complete sentences: 3
No. of characteristics included per object : 2 out of 3

B. Discrepancies noted and recorded and provisions made for additional experiences based on results.

C. The home will be informed about the performance of the learner and recommendations will be made for assistance to be given to the child.

D. Retest.

APPENDIX D

The following represent solicited remarks from various project participants:

Parent Representatives

1. I have done the following:

   (a) My main function was to be a go-between with the parents and the organizers of the project. This included talking to parents, having meetings at home, and participating in meetings with the organizers.

   (b) My next function was as a parent working on sample lessons at home with my child who participated in the project.

   (c) My third function was to help in the classroom a few days - working with a small group of children on a definite sub-objective. The first groups I worked with were learning to follow three directions. The other lesson was questioning a child who had listened alone to stories.

   I feel that the greatest value of this project was the behavior study which was the standard for judgment - rather than a written test. This way the child's success in a given objective is obvious rather than arbitrary. I believe that the project was good. I can only judge on the two areas covered - oral communication and selective listening - which I feel are very basically important. I did as much as I felt qualified to do concerning this project. We (my child and I) worked at home for the length of time that he was interested and no longer. I did not spend hours and hours working at home. If this project is practically possible I would like to see it continued. In my limited contact in the classroom I feel that all eight children accomplished new objectives and did benefit from this.
   I think another great value in this program is the positive and limited areas chosen and "zeroed in" on.

   . . . . Margaret Santini

2. I feel this method of teaching is excellent as it enables children to learn according to their ability and gives the children the opportunity to learn. Comparing this method with the method I was taught, if you didn't understand something the class continued on to something else, some children were left behind. As I see it, this method gives all children an equal opportunity to learn.

   . . . . Bob Bratty

3. From what I have seen the project definitely has value in that it opens the child's mind to a greater extent and focuses on individual needs and progress. As a parent I am more than willing to help my child at home and feel that a guideline of some sort is needed.

. . . . Gerda Soderer

Part-Time Teacher

1. I have done the following:

(a) On Monday, Wednesday and Friday mornings I worked with three students who were not involved in the program. I took them out of the classroom and worked with them on an individual reading readiness program. We worked on the alphabet, word sounds, colors, sequence of events, etc.

(b) On Thursday afternoons I substituted for Mrs. Halcomb while she had release time to attend meetings concerning the program.

(c) One morning I took my three youngsters into the classroom and presented a short lesson for the video tape. This lesson dealt with colored strips of paper being placed in the same sequence as the model that was on the flannel board. The objective of this lesson was to practice correct left to right progression.

I like the idea of several active groups in the room, knowing that none of the groups are greatly interferring with the others. This can be done without an adult in each group also, and in a normal classroom situation there would be only one teacher who would move from group to group. When available I think the parent, aide and teacher cooperation in one room is a good situation.

From what I know about the project I feel that it was worthwhile, and would be great if all teachers could keep up with the well planned lessons (and they do have to be well planned to get the responses that you are after).

After all these lessons are completed--did the child profit from the program? How can you tell?

Now my three children who weren't involved--in a regular (non-pilot) program--how could you involve them?

I enjoyed working with such a small group, and feel that I did accomplish something as far as their readiness is concerned. However, I would be able to comment much more on the outcome of the project if I had been in the classroom.

I think the idea of repeating lessons for the children who are not ready to move ahead is a very necessary part in a learning situation.

. . . . Lynn Ramme

High School Student Aide

1. I have done the following:

(a) As an aide to Mrs. Halcomb's first grade class I worked with the listening portion of the program, I read short stories to one or more children at a time, the stories with pictures attached. At first I would read a story and then place the pictures in front of the child and then I would go back and read the story once again in portions; the child would place the pictures according to the portion read. I did this for most of the seven weeks I worked. At other times I worked with the listening post. The child would listen for a certain period of time and I would ask questions to see if the child listened.

(b) One day I went to the library with one child to help that child's attitude toward other people. I think a teacher aide can help the teacher in this area in order for the child to accept school and surroundings.

(c) I helped rewrite a story that Mrs. Halcomb wrote which was very creative. I only helped with wordings but it was a very good story.

I think the value was well worth the time put into it. I really liked the program. The main objectives were listening and oral outputs. I think, at least for the part I did, was very good. I think this method of listening is the best I have ever seen. I was very pleased with the program and I truthfully think this program should be continued. I give it all my support as far as my standpoint. The children were willing to partake in something like this.

This is probably all final but I think what is important is that it was worthwhile and I think it should be continued.

. . . . Mickie M. Wolfe

Assistant Superintendent

My main function in this project was to maintain an overview of the project interactions as required by the systems design. I was responsible for coordinating all of the subsystems and for the encouragement of interdisciplinary cooperation by all. Further, I was responsible for scheduling project activities and for the scheduling of its component parts. At times I participated directly in the curriculum development portion of the project.

This approach is challenging and innovative. It is a workable plan for more effective decision-making regarding district-wide needs and I can see its application in a typical school district setting.

. . . . Robert A. Crawford

Principal

My role as principal was made easier by the delineation of guidelines established within the writing of the project. As principal I maintained my role as resource to the instructional program and I was able to act as a coordinator of the instructional effort at the building level.

The necessity of relegating roles after the needs of the roles are established make evaluation more effective.

. . . . Bruce Norville